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Youth and Climate Change in Samoa

A thesis

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Abstract

Climate change is a major issue for Samoa and the other Pacific island countries. Samoa's Prime Minister Tuilaepa Sailele Malielegaoi has identified climate change as the government's main challenge following his successful re-election in 2016. Many studies and research projects have addressed the significance of building adaptation strategies towards climate change in the Pacific. However, very few academics have paid attention and effort to include young people specifically in the fight against climate change. Young people often face great barriers in getting their voices heard. This is no different for the youth of Samoa given their social structure and their cultural tradition of respect. As Samoa continues to experience increasing environmental degradation and climatic changes, affecting its social and economic development, a sustainable collective approach from all groups of people including the youth can be crucial. This paper presents an outcome of a study to investigate if the youth of Samoa are active in the climate change projects being implemented in their local villages.

The study was based on a particular climate change project called the Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS). The main focus was to examine if the youths of the project site villages were involved during the project. Particular interest was paid towards the discourses that may have prevented them from participating in voicing their concerns. A qualitative approach was central to the discussions from the youth focus groups, as their responses and perceptions were analysed.

The results highlighted the poor level of participation and understanding of the youths about climate change and the ICCRIFS project in their local villages. It revealed a downside of the communication process used between the ministry and the village, as well as the relationship between the local chiefs leading the project and the village youths. The findings also revealed how the youth are exposed to the cultural barriers which have influenced the way they understand and treated the ICCRIFS project. These findings concluded that the project needs

a better medium of communication to enhance contact and improve interaction from both sides. The analysis of the youth participants painted the need for someone responsible and committed to lead the project. This will need to be someone who can become a good role model to motivate and encourage everyone in their local communities to work and participate.

Hopefully this research paper will provide an opportunity to guide and improve the framework for the overall sustainability of adaptation programs in Samoa. More importantly, I hope this paper will provide a pathway for the youths of Samoa to develop a sense of passion and responsibility to participate and contribute to the various climate change programs being implemented in the local villages.

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Chapter One: Introduction

Climate change is a major issue for Pacific island countries. As predicted by scientists, Pacific island countries have been identified as areas that will be among the first to be impacted, and as a result, forced to adapt to climate change, in particular to sea-level rise (Fisher, 2012; IPCC, 2007). In reality, most countries in the Pacific are already experiencing disruptive changes from many of the anticipated impacts of climate change. These include coastal erosion, coral bleaching, and rising sea levels which cause soils to become saline affecting cultivation of traditional crops (SPREP, 2011). Samoa like other Pacific countries is highly vulnerable to the harmful impacts of climate change and this is reflected in its geographical and socio-economic characteristics.

Climate-related disasters often have serious impacts on youth and children, such as implications in securing their human rights in health and survival. Despite the large vulnerable youthful population in Samoa, most of the discussions and decision making are influenced and controlled by the elders. This is part of the traditional cultural system which results in the absence of the youth's voice during climate change projects. Yet, it is the youth and their future families that will be the most vulnerable to, and affected by the decisions made today to cope with, the impacts of climate change. Therefore, it is important to find out if the youth of Samoa are taking actions and desire to be involved in local sustainable development projects to help combat the effects of climate change.

The research focuses on investigating if the youth of Samoa are active in climate change projects in the country. Also, it seeks to determine if they are taking part during consultations and decision making towards the development of the climate change projects within their villages. Studies of youth participation in decision making processes in Samoa suggest that, even in a democratic and Christian tolerant society, the youth may be subjected to discrimination based on their age difference (Huffer & So'o, 2000). This attitude could negatively impact the social cohesion of the society and exclude the participation of the youth in the cultural and political aspects of Samoan society (Meleisea, 2000). This, in

turn, could affect the quality of life and future well-being of the younger generation in Samoa.

To meet the purposes of this research the following questions were addressed:

1. Are the youth of Samoa participating in Climate Change projects?
 - a. What do youth know about Climate Change?
 - b. What don't youth know about Climate Change?
 - c. What are their thoughts about how Climate Change can be addressed?
 - d. What is the level of youth participation in Climate Change?
2. Should the youth of Samoa be part of the decision making process towards the Climate Change projects?
 - a. What do youths think they can do to improve the sustainability of the country towards the impacts of Climate Change?
 - b. Why are the youths of Samoa not participating in these Climate Change projects?

This research has the potential to challenge the common discourses that dominate the decision making processes in Samoa. It engaged directly with the marginal group of youths in the country that were not able to participate and contribute to climate change projects and development. Given the social structure of the Samoan culture, the youth's voices are not typically heard in the decision making processes. As such they are not encouraged to speak during such consultations and are most likely to be constrained from speaking or voicing their concerns due to the cultural values and norms. As shown in Figure 1, most of the participants involved during the consultation and development phase of the project between the Ministry of Natural Resources and Environment (MNRE) and the village were old men and women.



Figure 1: Development phase of a village climate change project.

(Photo source: Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS), with approval from MNRE)

The research also has the potential to act as a review of the current legislation and frameworks that guide the implementation of climate change projects in villages. In addition it acts as an assessment of these climate change projects, based on the experience and feedback from the youth's observations on the sustainability of their local communities. Furthermore, the research focuses on enhancing the capacity of the local youths through a citizenship panel, which allowed youth participants to learn new ways of adapting to, and reducing harmful impacts of, climate change based on the information provided during these focus groups. With this in hand, these youth members can be equipped with essential skills to take local actions and further educate other people within their local communities.

Background and Setting of Samoa

General Description:

Samoa is a small island country in the southwest Pacific. It includes four inhabited islands and six smaller, uninhabited islands of volcanic origin as shown in Figure 2. Samoa has a total land area of around 2,900 km². Samoa's two main

islands, Upolu and Savai'i, are characterised by a rugged and mountainous geography. Around 46 per cent of Upolu and 70 per cent of Savai'i's total land area is covered by forest. Approximately 80 per cent of the 403 km coastline is considered sensitive to erosion and flooding (MNRE, 2005).



Figure 2: Map of Samoa

(Source: ICCRIFS, with approval from MNRE)

Economy:

Samoa is one of the world's Least Developed Countries (LDCs). Samoa's economy has traditionally depended on development aid, agriculture and fishing. Samoa is one of the highest recipients of remittances in the world, as a proportion of Gross Domestic Product (GDP). Only around 19 per cent of Samoa's total population is engaged in formal paid work. Two-thirds of Samoa's possible work force is engaged in subsistence village agriculture, a dominant sector in the Samoan economy (Central Bank of Samoa, 2015). However, some of this labour force has been lost to emigration in recent years. Agriculture and fisheries are both still critical for commercial purposes and the subsistence livelihoods of the population. About 75 per cent of the households consume most of their harvest and fisheries catch while 25 per cent sell their surplus at the market (Samoa Bureau of Statistics, 2011). Subsistence agricultural activities are significant for

the support of families, which together with fishing are both activities at risk from climate change. The tourism industry has been the fastest growing and expanding sector which now accounts for more than 27 per cent of the total GDP (Central Bank of Samoa, 2015). However, private sector growth is constrained by a narrow resource base, limited infrastructure, global market isolation, dependence on imports and a lack of skilled labour.

Population:

The 2011 census enumerated 187,820 persons in Samoa. Between 70 and 80 per cent of the population live on or near the coastal rural areas and are dependent on local natural resources and ecosystems for their food, water, shelter and livelihoods. Over 20 per cent of Samoa's population live in the Apia urban area which is about 11 per cent of the total land area (Samoa Bureau of Statistics, 2011). This has significant development implications for social and economic infrastructure, as well as increasing social concerns given the growing number of people residing outside traditional village settings and the associated social governance of different village groups (MNRE, 2012).

From the 2011 population census, 76 per cent were in Upolu and 21 per cent in Savai'i. The population was relatively youthful, with 37.6 per cent between the ages of 0 and 14 years, 56.7 per cent of the population between 15 and 64 years and only a small proportion of 5.7 per cent over 65 years. This youthfulness is reflected in high fertility rates and life expectancy is just under 65 years (Samoa Bureau of Statistics, 2011).

Climate:

Samoa has two main seasons characterised by significant differences in rainfall. The temperatures are high, and conditions are humid and generally uniform throughout the year with the dominance of south-easterly trade winds. Tropical cyclones are most common between the months of November and February. The annual rainfall is about 3000 mm, with about 75 per cent of the precipitation occurring between November and February (MNRE, 2005). Samoa's topography has a significant influence on rainfall distribution. Because of the predominant

south easterly trade winds, the mountain ranges determine the distribution of rainfall. Wet areas are generally those located in the southeast and the relatively drier areas are located in the northwest of the main islands. Samoa is also vulnerable to long dry spells that overlap with the El Niño conditions. The south-easterly trade winds are directly associated with the movement of the South Pacific Convergence Zone (SPCZ) (MNRE, 2008).

Drought:

Increasing frequency of unpredictable and low rainfall associated with El Niño leads to household water shortages and increasing stress on groundwater resources, and increased risks of bush fires. Dry periods are more common during the months from April to October, particularly in the rain-shadow north-western areas of both the main islands, Upolu and Savaii (MNRE, 2008). Prolonged periods of drought, usually lasting three months or more, with increased risk of forest fires, have been recorded on Savaii Island in Aopo, Asau and Falealupo villages, with the first five major forest fires occurring during the drought/dry periods of 1982-83, 1997-98, 2001-02, 2002-03 and September 2010 (MNRE, 2014). These bush fires had the potential to destroy plantation forests, disrupt ecosystems, pollute the air, destroy vital infrastructure and act as a risk to human life and undermine attempts to secure sustainable food security regimes.

Cyclones:

The strong winds associated with cyclones result in severe destruction of vegetation, crops and infrastructure while the heavy rains result in flooding that again causes damage and increases the incidence of vector-borne and water-borne diseases. Tropical Cyclones Ofa (1990) and Val (1991) devastated Samoa causing damage estimated to be about three times that of the GDP (Samoa Bureau of Statistics, 2011) and especially impacted on Samoa's forest and agroforestry areas. More recently, during the Christmas period of 2012, tropical cyclone Evan struck Upolu island with the estimated value of damage and loss equivalent to about 28 per cent of the total value of goods and services

produced in the country in 2011. Full recovery and reconstruction after cyclone Evans is expected to take three to four years (MNRE, 2014).

Climate Change Projections:

Samoa's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) report includes estimates of long term system changes in the future climate of Samoa. They indicate that by the year 2050 sea level is likely to have increased by 36 cm, rainfall by 1.2 per cent and maximum temperatures by 0.7°C (MNRE, 2012). Given Samoa's location, there is high uncertainty in the weather variability and extreme events for future climate projections.

Despite the uncertainty, the focus of climate change developments for Samoa has been overwhelmingly on the nature and frequency of extreme events such as tropical cyclones and drought, and how their impacts may be worsened by sea-level rise. Over time, sea level rise will increase impacts upon Samoa through events such as flooding, coastal erosion and damage to coastal infrastructure (MNRE, 2008). While low lying islands (atolls) are often more vulnerable to sea level rise than high volcanic islands, the propensity for communities to be located along the coastal areas results in similar risks and vulnerabilities for all small island groups. About 70 per cent of Samoa's population resides within 1 km of the coast as well as essential infrastructure such as hospitals, schools, port facilities, airports and tourist infrastructure (Samoa Bureau of Statistics, 2011).

Whilst the effects of sea level rise are most likely to increase over time, tropical cyclones are events of immediate and ongoing concern. Tropical cyclones worsen coastal erosion, endanger life and well-being, and adversely impact upon infrastructure, agriculture, reefs, fishing and tourism (MNRE, 2012). Climate modelling is indicating more El Nino-like conditions under global warming scenarios, and hence the potential for an increase in the intensity and frequency of tropical cyclones in the Samoan region, increasing damage, and the costs and frequency of repairs (SPREP & UNDP, 2013).

Adaptation:

Samoa's Second National Communication includes an updated vulnerability assessment for Samoa. The assessment covered water resources, health, agriculture, fisheries, biodiversity and infrastructure. These were the sectors where it was considered desirable and possible to build on the 13 sectors considered and prioritised in Samoa's National Adaptation Program of Action. The sectors considered in the NAPA were agriculture and food security, forestry, water, health, communities, biological diversity, fisheries, trade and industry, public works, transport and infrastructure, tourism, urban planning and development, coastal environments and energy (MNRE, 2012).

The NAPA identified that around three quarters of these sectors were highly vulnerable to the adverse impacts of climate change and climate variability, including extreme events (MNRE, 2012). The nine sectors considered highly vulnerable from the highest to lowest were the water sector, agriculture and food security, forestry, health, urban settlements, coastal environments, communities, trade industry and works, transport and infrastructure (MNRE, 2012). Climate change and climate-induced disasters will most likely to cause instability in food production and water availability, affecting income generating activities for the local communities.

Samoa's NAPA and Second National Communication have identified that adaptation in the agriculture sector will depend on national policies, planning for projected climatic changes and developing appropriate response measures. They have also noted the importance, in the preparation of the agriculture sector plan, of the impacts of climate variability and change being taken into account in a well-integrated manner (MNRE, 2012). At the village level, emphasis is placed on implementing practical adaptation measures that enhance the resilience of families and village communities to climate change. Combined, these activities are seen as facilitating adaptation in commercial and subsistence agriculture and promoting food security (MNRE, 2014). Samoa will complement these efforts, with a focus on district and community levels as raising public awareness will also be particularly important. Although Samoa has developed a stronger

understanding of the vulnerabilities and adaptation potentials of its environment and climate change, critical information gaps still exist. More should be done to understand the role each citizen plays in the adaptation and sustainability process.

Case Study

The selected climate change project is titled the Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS) or *Vaomatua Anagata o se Nuu Malosi I suiga o le tau (VANUMA)* in the Samoan language. The project covers one of the priority areas in Samoa's National Adaptation Program of Action (NAPA) and is the first Global Environmental Facility-financed Climate Change adaptation project in tropical forests. It is implemented on the two main islands of Upolu and Savai'i covering the conservation and sustainable management of 25,000 ha of lowland agro-forestry areas and 10,000 ha of upland rainforests (MNRE, 2014).

The objective of ICCRIFS was "to increase the resilience and adaptive capacity of Samoa's forest areas and communities depending on them for livelihoods to the threat of climate change through targeted interventions in lowland agro-forestry and upland native forestry areas". The ICCRIFS project had 3 main foci;

- (i) building stakeholder capacity to increase resilience against, and identify options to address, climate change risks;
- (ii) enhancing community capabilities to develop and implement response strategies and measures to respond to the adverse effects of climate change;
- (iii) improving local awareness and understanding of communities and other key stakeholders about the necessity and benefits of preparedness for climate change risks (MNRE, 2014).

Samoa is experiencing climate change in addition to the current environmental pressures on forestry resources due to the clearing of native upland forestry areas as well as the unsustainable land use practices in lowland agroforestry

areas. Consequently, this can seriously undermine Samoa's forestry and agroforestry resource base as well as the related livelihood opportunities of its communities. Therefore in this project, the Government of Samoa will strengthen institutional capacities to systematically identify and address the climate change driven risks in order to align with Samoa's Millennium Development Goals (MDGs). Reforestation, restoration, tree plantings, tree farming, agro-forestry and rehabilitation of degraded lands, with climate resilient species, are all key activities promoted by the ICCRIFS project and will form an important part of the community involvement in climate adaptation activities on both lowland agro-forestry and forestry areas. For this, a large number of native trees, fruit trees, and plants will need to be circulated, nursed and stored in each village to ensure seedlings are distributed locally and planted in all village demonstration areas and planned reforestation sites. Local community nurseries are a key in promoting sustainability and reproduction of project activities by local stakeholders.

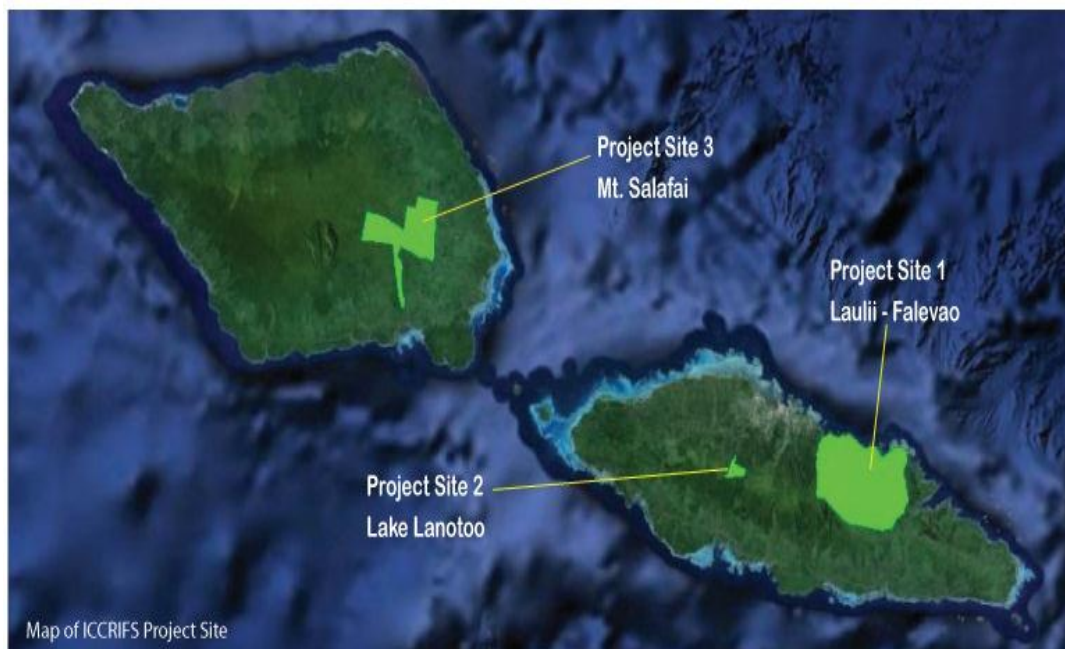


Figure 3: Map of ICCRIFS Project Site

(Source: ICCRIFS, with approval from MNRE)

The project was funded by the Global Environment Facility (GEF) under the implementation of the United Nations Development Program (UNDP). The MNRE was the main executing agency responsible for the four year operation of the project from 2011-2015. The project consisted of three main project sites as referred to Figure 3, and was divided among 25 villages of both islands, Upolu and Savaii. These sites were carefully selected based on their vulnerability to climate change; potential to demonstrate a wide range of adaptation measures and to be replicable in other areas of Samoa; interest and willingness of the local population to collaborate in adaptation activities; alignment with government strategic priorities and complementarity with other initiatives. This involved consultations, site management plans and workshops, together with the building of the 25 nurseries and 25 agroforestry demo plots. The ministry also provided training programs and equipment as well as the supply of seedlings for distribution to the local community. A P3D Model was developed through workshop and trainings to allow the rehabilitation of upland areas to be more efficient and accessible. The Participatory 3 Dimensional Model was a mapping tool that was important for the management in terms of planning and conservation as it helps the ministry and the local community to see the use of land in the area. The project was aligned together with the development of the Forestry Management Adaptation plans and projects on the resilience of forest and agriculture to the impacts of climate change (MNRE, 2014). The formal operation timeframe for the project has come to an end at the time of the research, but the ministry were still carrying out monthly visits to the project site areas.

Chapter Two: Literature Review

From current literature, most of the scientific research on climate change in the Pacific tends to focus on strategies of adaptation, resilience and mitigation. Very few Pacific countries have taken the initiative and effort of addressing climate change through their youth (SPC, 2009). But for Samoa itself, there is a significant gap between decision making and the voices of youth due to cultural values that privilege the voices of elders. There are approaches to sustainable development in the context of climate change but there is no climate change legislative act in place or specific policy to encourage the youth to participate in climate change projects. For instance, the current framework of the Samoa Infrastructure and Asset Management (SIAM) project involves intensive participatory consultations between the Ministry of Natural Resources and Environment and the council forums that are managed by the various village chiefs' (*Matai's*) council¹ (Daily et al, 2010). However, this approach towards capacity building and participation often hinders a marginal group of youths who feel uncomfortable in taking part in such projects. Therefore this research will explore this gap in the literature and in practice of youth involvement in climate change in Samoa and hopefully build the capacity to develop a source of understanding which can be crucial in the development of effective adaptation programs. This literature review is structured into two main sections. The first section will review how climate change is perceived in Samoa and the Pacific, with reference to the impacts of climate change on the Pacific Island countries and the adaptation responses. The second part of the review is based on the contribution of the geography of youth and how this can be incorporated into the fight against climate change. A wide range of perspectives will be presented to bridge the gaps in information and literature available on youth and climate change in Samoa and the Pacific.

¹ Village chiefs are also known as Matai. Matai are titled men that hold authority in their village. Only these Matai are present during meetings and consultation in the chiefly council.

Small Island Developing States

The sea is our very close neighbour. In fact, on the island where I live, Funafuti, it is possible to throw a stone from the one side of the island to the other. Our islands are very low-lying. When a cyclone hits us there is no place to escape. We cannot climb any mountains or move away to take refuge. It is hard to describe the effects of a cyclonic storm surge when it washes right across our islands. I would not want to wish this experience on anyone. The devastation is beyond description...This concern is so serious for our people, that the Cabinet, in which I am a member, has been exploring the possibility of buying land in a near-by country, in case we become refugees to the impacts of climate change. Hon Teleke P Lauti (UNFCCC, 2005).

The images of the Pacific islands as small and remote have significantly defined these small island states as highly vulnerable to the impacts of climate change. Because of their geographical size and location, together with their economic status as less developing countries, many of the statements from the international community have labelled them as potential victims of the severe impacts of climate change. Hence the knowledge of climate change and how it is addressed in the Pacific is often produced by overseas people such as consultants with clear influence from international funding institutions (Barnett & Campbell, 2010). Campbell (2014) argues that the vulnerability of the islands results from environmental social and economic factors particularly in relation to sea level rise. In addition, other studies have outlined the social and environmental characteristics of the Pacific Island Countries (PICs) to better identify their vulnerability to climate change, isolation and fragmentation (Barnett & Campbell, 2010). On the other hand, a Pacific scholar Epeli Hau'ofa (2008) defined the Pacific islands based on their geographic territories which he refers to as 'Oceanian societies'. Their culture is a part of their interaction between their people and their ocean. The sea provides the main source of

employment, income and food for the citizens of the Pacific island countries. Therefore the ocean is a central part of the Pacific people's life. However, while most people are debating about the uncertainty of sea level rise, the Pacific people especially in the low lying atolls will have to deal with the possibility that they might need to look for another place to live (Campbell, 2010).

Impacts of Climate Change on Pacific Island Countries:

We are caught in the middle, effectively, in Tuvalu. We are very, very worried... We are already suffering. It's already like a weapon of mass destruction and the indications are all there... we only need to garner strong collective leadership to address this... We are dying. PM Tuvalu Enele Sopoaga (2014), (as cited in Narang, 2015; 269).

Climate change is considered to be one of the most pressing issues for the Pacific island countries. The small island states contribute less than one per cent of global greenhouse gas emissions but are the most vulnerable of all locations to the impacts of climate change and sea-level rise (Nunn, 2013). Their potential impacts can include a wide range of disastrous effects such as coastal erosion and inundation from sea level rise, poor quantity and quality of water resources, coral reef bleaching, poor agricultural productivity and human health (Campbell, 2014). These impacts such as sea level rise and tropical cyclones pose by far the greatest threat to small island states pushing people beyond the extent of their coping range (Mataki et al, 2007). This is particularly true for many of the Pacific islands with vulnerable characteristics which limits their capacity to mitigate and adapt for future climate and sea level change (Nunn, 2013). However, there are significant uncertainties about climate change impacts (Shaw et al, 2010) which may vary from place to place. In the Pacific Island region, the impacts of sea level rise differ between low lying atolls and high volcanic islands as all are vulnerable to any degree of sea level rise, but a rise of one metre would be disastrous for the low-lying islands (Nunn, 2009).

These climate change impacts can either be direct or indirect for the Pacific islands. Direct impacts can include coastal erosion from sea level rise for low lying atolls and indirect impacts can include changes to the economic income of the country through impacts on its tourism development for example (Samoa Tourism Authority, 2011). It is believed that climate change impacts are found to be most extreme at the grassroots community level where people are struggling with everyday life and health issues or natural disasters such as cyclones. Climate change may affect island environments and human settlement through problems of land security, sustainable livelihood security and habitat security (Campbell, 2014). More challenging to accept is the ongoing debate by environmentalists and politicians on Tuvalu's vulnerability to climate change where Farbotko (2010) argues that Tuvalu is seen as an island laboratory for the interests of the developed countries only, which indicates the unequal relationship as the Tuvalu islands serve as study models for countries in the west. Overall, the Pacific island countries contribute very little to the climate change problem but Oceania is the region that is among the most vulnerable to climate change (Campbell, 2014).

Samoa

As a Least Developed Country (LDC) and a Small Island Developing State (SIDS) in the middle of the vast Pacific Ocean, Samoa is particularly vulnerable to the adverse effects of climate change. Samoa is experiencing increasing climate change-induced damage to human and economic development in key sectors, with adverse effects already experienced by its village communities. There is a high risk that further climate change related damage will strongly impact on the country's economy, social infrastructure, natural environments, and significantly affect the livelihoods of rural communities (Samoa Tourism Authority, 2011). The combined effects of sea level rise, increased frequency and intensity of tropical cyclones, coastal erosion, and disease impacts on crops, drought and reductions of fresh water supply may seriously undermine Samoa's economy as a whole as well as the livelihood opportunities of its local communities (MNRE, 2012). Climate change is likely to intensify current environmental pressures on the

limited resource base available, together with the unsustainable human practices as well as the impacts of rapid development (MNRE, 2012).

These multiple effects of climate change on the country have resulted in the adoption of three major activities as listed in Table 1. The implementation of these three projects has significantly affected a wide range of government and private sector actors as well as local communities. For instance, all three projects have identified climate change as an environmental issue that affects all sectors of the country that requires significant commitment and sacrifice in order to build climate resilience of the local population. This requires a significant change of approach to the normal development criteria imposed on building and land use, limitations and control of infrastructure, education and health services, awareness programs and building capacity, emergency and early warning systems and so forth. This clearly may affect the local population as they have to go through frustrating and time consuming application process as there are strict conditions required for most services in order to be sustainable. A perfect example would be the implementation of the Planning and Urban Management Agency (PUMA) as an MNRE department. This proved to be a major hassle for most people as they had to familiarise themselves with the new changes and conditions required for building a house (MNRE, 2012).

Table 1: Three Major Projects

Project	Year
National Adaptation Program of Action (NAPA)	2005
Strategy for the Development of Samoa (SDS)	2008–2012
Samoa National Action Plan	2011-2016

Adaptation in the Pacific:

Adaptation to climate change takes place through adjustments to reduce vulnerability or enhance resilience in response to observed or expected changes in climate and associated extreme weather events. Adaptation occurs in physical, ecological and human systems. It involves changes in social and environmental processes, perceptions of climate risk, practices and functions to reduce potential damages or to realise new opportunities. Adaptations include anticipatory and reactive actions, private and public initiatives, and can relate to projected changes in temperature and current climate variations and extremes that may be altered with climate change. In practice, adaptations tend to be on-going processes, reflecting many factors or stresses, rather than discrete measures to address climate change specifically (IPCC, 2007; 720).

Although the Pacific region is geographically, culturally and economically diverse, all Pacific Island countries share a common feature of being highly vulnerable to the impacts of climate change. For most small islands, the reality of climate change is just one of many serious challenges with which they are confronted. Such pressing socio-economic concerns as poverty, high unemployment and health care facilities all compete for the limited resources available to these countries. In these circumstances, progress in adaptation to climate change almost certainly will require integration of appropriate risk reduction strategies with other sectoral policy initiatives in areas such as sustainable development planning, disaster prevention and management, integrated coastal management and health care planning (MNRE, 2005). At the same time, they are forced to implement appropriate strategies to adapt to increasing threats resulting from greenhouse gas forcing of the climate system, to which they contribute little (Nunn, 2013). The adaptation capacity to reduce impacts of climate change has been the central approach by many of the Pacific island countries. It is believed that adaptation to environmental change has traditionally been part of the

Pacific community's lifestyles. This is evidenced by their abilities to successfully live and depend on the Pacific environment through their traditional knowledge, values and cultural practices. However the concept of traditional knowledge in the Pacific has only relatively recently been acknowledged (SPREP & UNDP, 2013), and since then, it has been incorporated into various approaches such as disaster risk reduction plans and climate change policies. One of the traditional practices used by the Pacific people was traditional food storage where they dig holes underground to preserve food and crops for emergency purposes which have allowed Pacific island communities to mitigate the effects of 'climatological extremes and to ensure food security' (Campbell, 2014).

Treaties and protocols have been formulated to respond to climate change. For instance, the Intergovernmental Panel on Climate Change (IPCC) was established in 1988 (Thaman, 2010). As stated by Cannon and Müller-Mahn (2010), the warnings of climate change simultaneously have to be followed by an urge for adaptation. In a speech, former UN Secretary Kofi Annan in Nairobi (2006) stated:

The impact of climate change will fall disproportionately on the world's poorest countries, many of them here in Africa. Poor people already live on the frontline of pollution, disaster, and the degradation of resources and land. For them, adaptation is a matter of sheer survival (as cited in Cannon and Müller-Mahn, 2010; 626).

There is already a vast body of literature generated by debates together with numerous narratives over whether climate change is a natural phenomenon or a human induced activity. Climate change can be framed in multiple ways, as a security issue, as a threat to economic well-being or as a question of social justice. The most common discourse is still the original frame, namely "climate change is an environmental problem" (Hulme, 2007; 243). It has become a significant point of debate in various disciplines, world politics and international diplomacy, academics, development, welfare, ethnics and religion. Hence, these

fields will impart different meanings about climate change and will generate different procedures of action (Hulme, 2013).

Responses in terms of adaptation have largely focused on producing information required by donors and multi-lateral agencies rather than to implement adaptation in the region. (Bankoff, 2001; Barnett & Campbell, 2010). The discourses of vulnerability imposed by western representations have failed to acknowledge the multiple meanings and characteristics of vulnerability which include cultural values, political language, economic and social issues. Overall these western discourses of vulnerability for the unsafe world are based mainly on western knowledge while ignoring the need to include the experience and knowledge of the so-called 'others' (Bankoff, 2001). Cannon and Muller-Mahn (2010) argue that it is crucial that a mainstream human dimensional approach should be the face of adaptation and mitigation programs for climate change, rather than the traditional dependency on scientific knowledge as it does not suit most of the less developing countries. This is because there is always debate and conflict over power relations among the key actors of climate change programs. In addition, there are problems that is associated with poor governance and the urge for economic development while at the cost of climate change (Cannon & Muller-Kahn, 2010).

Samoa

Climate change is a change in the average experienced weather for a particular region of the islands. By increasing the amount of heat trapping gases released into the atmosphere, human actions have enhanced the warming capability of the natural greenhouse with significant environmental impacts (Nunn, 2009). This is a global phenomenon where local mitigation is of little significance to its global impact, and where adaptation remains the critical response applicable to Samoa and other small islands. Many of the climate change risks and hazards faced by Samoa through its vulnerability and possible response measures have been recognized and are well documented in a number of reports such as the National Development and Environment Management Strategies; Samoa's First National Communication to the United Nations Framework Convention on

Climate Change (UNFCCC); the National Adaptation Programme of Action (NAPA); the Asian Development Bank Report 'Samoa – Country Environmental Analysis'; the Fourth & Fifth Assessment Reports of the Inter-Governmental Panel on Climate Change (IPCC); Strategy for Development of Samoa (SDS) and the ADB Climate Change Implementation Plan for the Pacific (MNRE, 2014).

The adaptation strategies have adopted an integrated approach linking a number of sectors to include a wide range of stakeholders, disciplines and experiences. This approach not only reflects the cross sectoral nature of climate change but also empowers local communities to participate in community based adaptation actions, by bringing together different development partners and Governments to provide financial support, in order to promote a cooperative Government approach in addressing climate change impacts at the national level (MNRE, 2012). The Samoan government through its ministry's continues to identify and address the climate change driven risks in order to increase the resilience of rural communities and protect their livelihoods from climate related damages.

A lot of the emphasis on adaptation has been placed on awareness programs to educate the general public on implementing strategies for sustainable development (SPREP & UNDP, 2013). Two specific projects have investigated adaptation and mitigation programs against climate change. The first highlights a project that looks at 'reducing the Climate Vulnerability of Coastal Communities in Samoa' (Daily et al, 2010). In particular, this focuses on trying to reduce coastal vulnerability from rising sea level through the strengthening of local communities' response, by developing coastal infrastructure and national disaster management plans. The second discusses 'Climate Variability and Sea-level Rise in the Pacific Islands Region' (Hay et al, 2002) and, provides knowledge and resource materials to guide public awareness programs for the Pacific Island countries sustainable development. From these two articles, it seems clear that such projects on climate change do not necessarily reflect any noticeable participation from youths as they are generally marginalised during these consultations. In addition, both projects suggest that more research should be

done to investigate the need for youth's participation when deliberating on issues concerning climate change.

A third project titled, 'Engaging Pacific Youth through a Facebook Game' however is the only one that included young people and provided a specific strategy of taking into account the importance of their role and the contribution that they made towards responding to climate change. One particular strategy implemented was the development and launching of a Facebook game intended to help youth learn about sustainable strategies to adapt and reduce the impacts of climate change (Fisher, 2012). This approach shows the strong relationship between the youth and the availability of internet technology which is considered significant as active participation requires access to information, and the internet is one vital component of sharing information and knowledge for sustainable development. In addition, this is especially useful in the case of Samoa as the internet can be a powerful tool for the youth to express their concerns and opinions about environmental issues without having to negotiate with the traditional chiefly structure.

Geography of Youth

The theme of International Youth Day in 2008 was "Youth and Climate change: Time for action."

Young people who are adept at spreading new habits and technologies are well placed to contribute to the fight against climate change. They (youth) are adaptable and can quickly make low-carbon lifestyles and career choices a part of their daily lives. Youth should therefore be given a chance to take an active part in the decision-making of local, national and global levels. They can actively support initiatives that will lead to the passage of far-reaching legislation. A more defined role should be given to the youth to prevent the impact of climate change. It is essential to conduct major studies among

youth regarding awareness about climate change as well as role of youth in combating climate change. Ban, Ki-Moon, Secretary-General of the United Nations 2008 (as cited in Pandve et al, 2009; 105).

Tupulaga Talavou in the Samoan Village Structure

In a traditional Samoan village, the culture is based on the *fa'amatai* system (chiefly system) that is hierarchical and well structured. Each family or extended family has at least one *matai* who is appointed through a defined number of years of service to the family and as well as inheritance. In addition, the *matai* is the leader of the family that has the authority, prestige and honour to control the family and community. Therefore the *matais* are the central most respected and valuable group within a Samoan family. The structure of a Samoan village is presented in Table 2.

Table 2: Samoan Village Structure

Samoan Groups	English translation
Matai	Chiefs
Faletua ma Tausi	Chiefs & Orators wives
Aumaga ma Aualuma	Untitled men and their wives, Untitled men with no wives and women with no husbands
Tama'ita'i	Village ladies with no husbands
Tamaiti	Children

Given the allocation as displayed in Table 2, the term youth or *tupulaga talavou* in the Samoan context can cover the three categories of *Aumaga*, *Tama'ita'i* and *Tamaiti* depending on the age, marital status or title held. Given the Samoan

culture which is founded on strong cultural values and Christian beliefs, love and respect highly influence the way people live. This means that people treat others with respect, especially the elders. This powerful principle plays a significant contribution to the way people interact and socialise in the families, the villages and the community. Hence the *tupulaga talavou* are often the category with fewer privilege rights or less authority within the village structure as they have to respect their elders.

Climate Change and Youth

The future of human society can be linked to climate change as it is one of the most pressing issues facing the world today. It is a global problem as its impacts are likely to be devastating for many people, but particularly more towards a certain population group (White, 2011). As a result people with different interests are taking precautionary measures and actions towards climate change. However, young people often face difficulties in trying to get their voices heard. Consequently, their capacities to inform decision making processes and actions in reducing the risks of climate change have often been neglected in their communities (Haynes et al, 2015). There have been concerns that young people have been marginalised through the common approaches of development as traditionally young people were defined as adolescent without direction (Allison, 2006). Furthermore, in terms of climate change, the disaster and sustainable development communities often refer to young people as passive victims that require protection. This western discourse of childhood as a state of being young in relation to age has produced social meanings through such definitions that have significantly influenced the way we define the young people of today. As a result, young people are often referred to as softly spoken, vulnerable and dependent on others in the Samoan culture (Malama, 2000). They are often labelled as fresh young minds without the proper experience and capacity to make decisions in life. Hence a key focus in geographical research on youth and young people has been on understanding and challenging the variety of ways used to define young people (Aitken et al, 2007).

Since the early 1990s, more interest has been shown towards research on youths and young people. This was significant in the establishment of critiques through highlighting the importance of space in the youth's experience of transitions across multiple social and cultural contexts. Most often geographers tend to focus more on engaging young people's lives, in order to understand the social constructions and the processes that control them (Aitken et al, 2007). It is important to understand that the experience of growing up varies among places as the definitions and the lived experiences of youth are much more complex when they involve gender, ethnicity or class issues (Langevang, 2007). Children and youths have always been conceptualised together as vulnerable to climate change and disasters (Chawla, 2007). The present may seem pretty scary as it is already a time when people are struggling to fight and survive over the uneven distribution and consequences of economic development. In looking at the futures of young people, it is useful to emphasize young people's capacities to influence and participate directly in efforts to cope with and adapt to the impacts of climate change (Walker et al, 2012).

Youths Willing for the Environment:

With the fight for the sustainable future of the environment, there are obviously young people who are interested in the environment, young people who are reasonably concerned for the environment and the future of their society. The participation of young people in decision making has been considered essential in creating their own future. This is particularly significant for the *tupulaga talavou* of Samoa and the Pacific where they grow up living and depending on their environment. The experiences of engagement with the natural environment during their childhood, would most likely stay with them and shape their understanding of the environment (White & Stoecklin, 2008). In addition Chawla and Johnson (2004) argue that the natural experiences of children and the environment allows children to form a relationship which encourages a love of nature and the values of responsibility for nature. Hence the life experiences

in natural settings can influence positive perceptions and attitudes towards the environment which can hopefully be linked to action (Tanner et al, 2009).

Empowerment of the Marginalised:

Adaptation strategies against the impacts of climate change at the community level should be centred on the empowerment of young people. This is because young people are among the most marginalised groups that face significant burdens to get their voices heard and acknowledged (Malama, 2000). In addition, they are regarded as energetic, fresh and active and able get the job done rather than 'the oldies' especially in the context of Samoa and the Pacific islands. Given the potential of climate change to alter the distribution and intensity of extreme weather events, tackling the causes and impacts of climate change have become a major global challenge of the twenty-first century (Schipper & Pelling, 2006). This requires greater attention from everyone including the youths, to the social, economic and political factors that influence social vulnerability rather than just the physical nature of disasters and the local environmental (Wisner, 2004).

Advantages of Youth:

Campaigns and awareness programs through the freedom of media and technology can be an effective way to reach and empower powerless people (Kindon, 2003). They are a great way for bringing people together to explore issues and voice and share their concerns. So in the long term, this approach can lead to the engagement of the local communities and allow local people to communicate more efficiently. The availability of technology through the internet and cell phones has proven popular over the years. This is particularly significant for youth as it provides the ability for the powerless to voice their concerns. As Garret (2011) discussed, online campaigns have the potential for the marginalised groups to question what's happening in society without any fear. For instance, some of the youth participants discussed how the meetings and interviews they had conducted with government officials with the presence of the village chiefs proved a valuable experience, but their concerns were only

voiced later through their personal Facebook accounts. The engagement of young people to participate during consultation with government officials will increase awareness and knowledge on disaster risks in their communities. Obtaining such information and ideas will hopefully enable young people to gain confidence to question community members who are often responsible for decision making. A great example of a successful online video campaign was discussed by Waite and Conn (2011) where the youths displayed an emotional and encouraging film in Uganda that portrayed the social and cultural causes and impacts of natural disasters in a manner that the old people couldn't.

However a major issue for most of the less developed countries who are also the most vulnerable to climate change, is the impact of slow and unreliable technology, which can reduce access to information. Some of these communities are scattered across the Pacific Ocean where access to technology and in particular the internet is limited. As noted above, the Pacific island countries have been identified as geographical areas that will be among the first to be impacted by climate change and in particular by rising sea levels (Campbell, 2010). Therefore information on climate change for local communities such as these is considered particularly important for their everyday life.

Youth Challenges:

Research has shown that there is an attitude-action gap in young people (Mifsud, 2008). Young people often feel positively strong towards the environment but they often perform very little positive environmental action. This attitudinal problem can be related to the behaviours learned from observing others. According to Chawla (2007), the commitment and effort from young people towards the environment was influenced mainly by the nature of the upbringing of a child and the family role models that showed them the true value of commitment and hard work. Significantly, this was a strong point raised by the youths regarding the lack of leadership to guide and monitor the climate change project in Samoa. Hence young people definitely need to observe and experience an influential leader that is passionate about the environment in order to earn

the support and trust of the local people. It is also clear that fundamental changes in the climate change projects requires certain norms and rules to guide such projects (Booth, 2009). These norms are considered crucial in determining the success and failure of such projects. For example, it is quite clear that the ignorant attitudes and behaviour of the youths in Samoa reflected the complexity of their behavioural experiences towards their environment. This was reflected in the research as the youths' behaviour proved difficult to explain, and definitely more challenging to influence any other changes to their normal daily lifestyle. In addition, some young people are inconsiderate about environmental problems mainly because of the sense and belief that they cannot make a change. As found during the consultation with the youth participants, they don't feel the urge to care for the environment when others don't. Hence knowledge and powerlessness seem to be factors that undermine the potential and effort of the youths in relation to climate change. As Partridge (2008) explains, the diversity and complexity of youth attitudes can be a product that shapes whether or not young people are willing to save the environment. Research on the everyday knowledge and experiences of the youth will open up possibilities through which it is possible to understand the ways that affect and influence the experiences of young people growing up in the traditional Samoan community system. Appraising how the youth shape and navigate their decisions and practices could help to prompt better understanding of their everyday needs, challenges and opportunities. In this way, this research has the potential to contribute to their understanding and hopefully integrate their concerns of improving the quality of their lives. In addition, it could challenge the dominant group of citizens that are in positions of power and authority within the strictly traditional Samoan structure.

Chapter Three: Methodology

Description of Methodology

Qualitative research into people's everyday lives provided an opportunity to understand the different challenges and needs facing these individuals and communities. This gave me the capacity to provide an in-depth understanding of the various interacting factors and processes that affect their daily lives in their various environments (Longhurst, 2010). This research took a qualitative approach by adopting two methods to collect data from the participants: focus groups and semi-structured interviews. The focus group and semi-structured interview questions were open ended and in each discussion, the questions were designed to identify people's knowledge and experience relevant to the climate change projects that have been implemented in their villages. The collection of qualitative social data through focus groups and semi-structured interviews was highly appropriate considering the main interest of the research being primarily focused on the experiences and behaviour as well as people's knowledge and why they perceive the world the way they do. The focus group and semi-structured interviews were directed by an information sheet and interview schedule prepared by the researcher (See Appendix One, Three, Five and Six).

Focus groups usually consist of a group of people who discuss a particular issue. Recently, smaller focus groups with four to six participants are becoming more favourable as they are often more comfortable for the participants and tend to be easier for the researchers to manage (Krueger & Casey, 2000). Focus groups are slightly different from semi-structured interviews because their key characteristics are the interaction among people. This interactive feature of focus group allows participants to discover a wide range of views and to rebuild their contributions to the discussion (Cameron, 2005). The use of focus groups was an ideal method of collecting data because of their capability to explore the socially constructed nature of knowledge about climate change and related projects. This was achieved by gaining the "multiple meanings that people attribute to places, relationships, processes, and events that are expressed and

negotiated, thereby providing important insights into the practice of knowledge production” (Cameron, 2005; 117).

Pacific Research:

Since the central point of this research was carried out in Samoa, the relationship or the *‘ava fatafata’* in the Samoan language was one of the most important factors that I had to take into consideration. My relationship with the participants not only had to be professional but also had to be culturally acceptable and maintained in order to have an encouraging impact on the participants responses. This was significant for the outcome of the research as Thaman (2010; 355) argues that in the Pacific, “relationships are important because they are central to personal as well as group identities and they provide the frameworks for appropriate behaviour and performance”. The western discourses of a research methodology undergo certain criteria and protocols from an approved ethics committee which guides everything you do. However in the context of research in the Pacific, ethics emphasises the importance of relationships especially when you will be dealing with issues like gender, religious or traditional customary issues that are held sacred to the local people (Huffer & So’o, 2000). In a similar manner, Vaiioleti (2006) discussed how conducting a research in the Pacific context, the researcher’s age, gender and cultural rank or position in the community often shape the participant’s behaviour towards the interview and this can have an impact on the outcome of the research.

The focus group was carried out using an open and flexible approach which was different from a semi-structured interview. The general aim of using a focus group was to allow the participants to stimulate discussions and share their experiences and knowledge in relation to each other’s comments. I wanted them to feel at home and be comfortable like the way they usually talk and interact amongst others. This can be related to the Pacific *talanoa* methodology which can be referred to as a “conversation, a talk, an exchange of ideas or thinking, whether formal or informal” (Vaiioleti, 2006; 22). The Pacific *talanoa* method of research had a similar important function that avoided the barrier between the

researcher and participant which allowed them to freely express and share their thoughts in a joking manner or in any way they prefer. Hence the focus group approach and the *talanoa* method of research can be incorporated into one as they both were applicable to the relationships involved for Pacific research. So therefore, I can say that a focus group with a twist of Pacific island flavour was the main source of methodology employed by this research to collect information from the participants.

Procedure for Recruiting Participants:

The main point of contact in Samoa was the Ministry of Natural Resources and Environment (MNRE) and the Division of Youth under the Ministry of Women, Community and Social Development (MWSCD). The MNRE is the central ministry responsible for developing key policy and planning documents that guide climate change programmes in Samoa while the MWSCD are responsible for the development of *tupulaga talavou* in the country. The original plan scheduled was to conduct the focus groups at any two selected villages, where any of the MNRE climate change projects are carried out. However when both ministries were approached and introduced to the context and goals of the research, they both recommended a specific climate change project titled the Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS). The main idea behind this recommendation was that despite the various number of climate change projects developed in the country, ICCRIFS was the only leading project that effectively involved the *tupulaga talavou*. Given the timeframe of ICCRIFS project which was now officially coming to a closure, this opened up an opportunity for changes to the scheduled plans. Therefore this first led to minor changes to the research planning process which is often the case when you are out in the fields for data collection (Longhurst, 2010). Hence the target number of 20 participants from two selected villages was transformed into 50 youth participants from the 19 selected villages of the ICCRIFS project sites;

Site 1: Leusoalii, Luatuanuu, Solosolo, Eva, Salelesi, Saoluafata, Manunu, Laolamuga,

Site 2: Lake Lanotoo National Park- Niusuatia, Vaiee, Lotofaga

Site 3: Mt Salafai National Park- Iva, Vaiafai, Lalomalava, Sapapali'i, Fusi, Fatausi, Fagapoa, Siufaga Faga

The focus groups were therefore organised through the *pulenuu* (mayors) of the selected villages as they were the main points of contact for the ICCRIFS and all other projects between the ministry and the local villages. This was a change from the original plan of using the youth representatives of the local villages as the main point of contact to organise participants. The intention was to work together with the youth representatives from two selected villages to organise possible participants interested in taking part in the research. However, I was advised by the MNRE that the easiest form of communication with the villages was through the *pulenuu* which was their usual point of contact. In addition, this was the most appropriate and formal way of communication into any of the local villages regarding programs such as the intended research. So the ICCRIFS project staff assisted me with the delivery of the formal request letters to the village *pulenuu*. The letter included the research information sheets, which outlined the proposed venue, date and time for the consultations to take place as well as the official request that specified the need for only the youths to attend.

The first set of focus groups was carried out during the official consultation on the 4th of December at the Elisa Hotel conference room in Apia. The participants for this consultation consisted of representatives from eight villages from site one and three villages from site two. The request, stated in the letter to the *pulenuu*, was to gather two young females and two young males from each village but on the consultation day, the turn up was poor as 11 of the total 25 people that attended were old men and women. The intention was to have youths respectively between the ages of 18-35 years old without *matai* (chiefly) titles and preferably to include a male and female youth leader. But given the turn out on the day, I had to settle with only two focus groups of seven young

men and seven young women separately. This separation was to encourage them to speak openly without the barrier of brother and sister respect in the Samoan cultural context. Hence it was particularly important for the research as it focused on people's different perceptions of how environmental issues affect their everyday living as well as their responses taken against these problems. In addition, I had to include an extra focus group for the seven old men that still attended as they were willing to share their voices too. On the other hand, four old women were not involved in any of the focus groups but were given the opportunity to voluntarily take part in an informal semi-structured interview and were also present during the special presentation.

The second set of focus groups was carried out in the big island of Savaii on the 11th of December which catered for site three of the ICCRIFS project. This included eight villages and I must say the turn out for this consultation was much better compared to the first one in Apia as 26 of the 30 people who attended were youths. Therefore the 26 youth participants were divided into four focus groups of two female groups and two male groups separately. The youths involved in all of the focus groups varied from the ages of 16 to 40 with a split half of male and female. The smaller number of six to seven participants in each focus group was designed to encourage them to share more of their knowledge freely. Similar to the consultation in Apia, there were also a group of chiefs and *pulenuu* that attended and therefore four old men were given questions to read and comment on voluntarily according to their knowledge. The semi-inclusion of old people in the research was not part of the plan but given their uninvited attendance, we had to respect them by allowing them to take part in a similar manner. In addition their views and perceptions could also contribute to the research as it can provide a different insight from the youth's perspective to climate change as well as the ICCRIFS project. All of the participants in the focus groups and semi-structured interviews were each given an information sheet and consent form stating their rights in participating during the research (See Appendix One, Two, Three and Four). In addition, they were handed a prepared set of questions that guided the discussions (See Appendix Five and Six).

However, they were still encouraged to shape and control the general discussions as it was important to share and learn about their opinions.

The participants for the semi-structured interviews were some of the MNRE, MWSCD and the ICCRIFS project staff. These were the main people and stakeholders responsible for the climate change projects carried out in the local villages as well as the development welfare of the youths of Samoa. This was carried out through informal *talanoa* discussions of roughly between 10 to 40 minutes, based on the set of questions provided. These were the people that accepted the request and were interested in taking part in the research after reading the information sheet and the consent forms provided. It was crucial to include the professional knowledge and perspectives from the staff as it provided an insight into how the ministry and the government see and overlook these local projects. Overall this provided a balance in terms of the information given as it differed from how the youth and local communities saw and understood the projects in their villages.

The focus groups and semi-structured interviews were all conducted in the Samoan language after the information sheet, consent form and the questions were translated from its English version. The focus groups were divided into a men's group and a women's group and designed to be flexible with the duration time and structure, in trying to avoid them from becoming bored and losing interest throughout the discussions. All of the discussions were audio-recorded as agreed to by the participants after they were advised of their rights to withdraw from the focus groups/ semi-structured interviews at any time, or to refuse to answer any question (See Appendix One, Two, Three and Four).

Throughout the research, I attended some of the public meetings held between the MNRE and one of the local villages, to observe their consultation process towards other environmental projects. Furthermore, I carried out a critical reading of the policies and legal documents that guided the work of the MNRE and their climate change projects. Hence, these multiple strategies can be a

useful strategy to maximize understanding in relation to the topic of study (Longhurst, 2010).

Discourse Analysis:

The data was analysed through a discourse analysis. A discourse can be defined as a broad group of statements that are constructed by a particular form of language, which produces and analyses problems in its own unique way (Dryzek, 2013). During the course of my research, I have focused on issues of power and on current policies, and dominant discourses concerning youth in the traditional political Samoan communities. Through this approach, I have identified the discourses, factors and trends that have been used in the consultations and development of the climate change projects in the villages. In addition, the relations between the information and data within the identified discourses has been examined and foremost, I paid significant attention to the discourses and subjects which have been absent and marginalized in the ICCRIFS project.

Role as a Researcher:

All throughout the research, I took an insider role of a researcher as I am a full blooded Samoan that has lived most of my life in the country. My knowledge and understanding of Samoan values and protocols helped me to shape a positive and respected relationship with the participants. My ability to speak the local everyday language style as well as the formal way of greeting the participants was a rewarding aspect for my research as I was acknowledged and treated with respect from the *tupulaga talavou* as well as the *matai's* that were present. Hence my background as someone that was born and raised, educated through the same system as they did significantly earned their trust to support and assist the research as they know it can also benefit them and their families. As a researcher, I also regarded myself as a facilitator, as my role was to ensure that equal opportunities were given to all the participants to contribute as well respecting when they refuse to. I was also aware of the many other responsibilities as a researcher such as the manner of ethics that guided the finding of data and information respectfully and other roles including leading the

Morning Prayer service to bless the program and all the participants involved, as well as providing morning tea and lunch as a gesture of thanks.

Challenges:

Overall the main challenge during the research was the translation of the English questions and documents into the Samoan language. The Samoan language contains a vocabulary which has a wide range of words with different meanings, so it was a major task to match the proper Samoan term to keep the meaning of the English version. This required more explanation during the focus groups as I had to make sure the participants understood what they were asked as well understanding their responses given.

The other problem that occurred during the focus groups consultation was the traditional formalities with the uninvited *matai's* that delayed the program. The main challenge facing the village *matai's* was how to respond to their formal speeches in a traditionally sensitive approach, as it can ruin the reputation of the research and the MNRE if we messed it up. In addition, there was a poor turn out as there were more *matai* from some villages compared to the number of *tupulaga talavou* that attended.

The final challenge was the lack of literature and studies available in Samoa and the Pacific specifically on youth and climate change. It was also a challenge to find information and documents on the many climate change projects implemented by the MNRE. I was often told to look online but their website was considerably slow and outdated with very limited information available.

Chapter Four: Findings & Discussion

Understanding and Experiencing Climate Change

Climate Change in the Context of Samoa:

The results from the research indicate that the youths of Samoa understood what climate change was. All of the participants knew about changes in the weather patterns which was reflected in their understanding of climate change. The translation of climate change in the Samoan language is '*Suiga O Le Tau*' which basically refers to changes in the climate and weather patterns. Climate change to the Samoan understanding is the signs of changes to the environment and its people from the changing weather patterns. Although most of the participants understood and classified climate change as an important issue for Samoa, their individual interpretations of climate change were limited and varied from person to person and according to age and gender.

The Daily Experience of Climate Change:

All of the 50 youth participants basically developed their definition of climate change through their personal experiences as most commented that '*Ua le toe tutusa aso*' which simply means today is not the same. Ninety per cent of the participants were farmers so their understanding of climate change was limited to their daily experiences as farmers and life in the village. They were able to name and explain the changes that they have observed and experienced in the past years. About 80 per cent of these farmers were between the ages of 21 and 40 so therefore were able to talk about the environmental changes in the recent decades. Their discussions were mainly based on the environmental changes they have observed such as the unpredictability of the wet and dry seasons, the increasing temperatures as well as the intensifying patterns and force of tropical cyclones. Some are already having difficulties in trying to differentiate the normal periods of the dry and wet seasons as the weather has been unpredictable. It can now rain heavily during the dry season and vice versa during the rainy season. As Simi stated;

Now it's not easy to distinguish the rainy and dry seasons. Before we were able to differentiate the different weather such as the winds that were favourable for the plants and trees to grow but made people sick. You hear how the old people would jokingly say that the wind would only stop when someone dies. And surprisingly we have accurately witnessed it over multiple times. But now, our children laugh when we try to predict the weather as we are not able to determine the seasons through our traditional knowledge of weather patterns.

These farmers discussed how their plantation crops have not been as growing well as they used to. They have experienced extreme hot and dry temperatures for long period during which the soil was damaged making it infertile for the vegetation and crops to grow. Therefore their farming vegetation suffered tremendously as these droughts and sunny periods continued. Another noticeable example of the effect of the reduced rainfall and extreme heat from the sun both contributing to the long periods of drought, were the local rivers in some of the villages which have become dry. As Pule explained;

The local village river never used to go dry but since about the last ten years, I have noticed new changes in which a short period of heavy rainfall results in heavy flooding immediately but once the sun comes out again, it quickly goes dry in less than a week.

The rising sea level was considered by many as a serious threat to the coastal communities. The noticeable signs of climate change were seen at the coast where the sea level at high tide has risen and comes into some village areas with strong force. The coasts for many villages were sandy beaches before but now the sea water has reached the trees and plant roots making it unsuitable for growth. As Sakaria explained;

Painful memories and harmful signs of changes when growing up in the village coast where the deep sea was far out away from the beach, but

now it's very close to the houses. The waves at high tide wash away the coastal soil leaving rocks and stones.

In terms of coastal fishing, some the villages have not been able to catch their subsistence fish as easily as in the past. As Pule testified on the difficulty of catching daily fish for family consumption;

The amount and size of the fish catch was never a problem in the past. But now it's difficult to get a good catch. This can be a result of the changes to the weather and the rising temperatures which kills the corals. However it could have also be manmade (sic) problems such as illegal fishing and the dumping of rubbish in the ocean.

From the limited participants who were able to discuss their understanding of climate change, the young men seemed to have much more comments and understanding compared to the young women. However, the young women's group seemed to have more emotions attached to the changes observed as they were able to discuss their feelings as Sina shared;

I feel scared, climate change is like a heavy burden that worries and threatens my life. I feel like my children will suffer when they grow up in the future because of my actions.

In a similar manner, the young women's group also tended to take the blame for the causes of the changes experienced in today's weather. They understood that the changes of the climate and weather are caused by us humans which simply meant that we have created our own problems. As Tasha commented;

I personally think that we should not blame other people or the overseas countries because we are also using cars even within a walking distance, our farmers use strong chemicals to control the grass, families that burned their rubbish everyday even with the availability of the rubbish truck. People continue to throw and dump their rubbish everywhere

including rivers and oceans. These are the small things we do that have contributed to the changes and the impacts for our environment.

Possible Causes of Climate Change:

Climate change is predominately a new topic of discussion in Samoa. It only came about in the last 10 or 20 years. Despite the recent emphasis on the discussion of climate change in the country, the participants showed good signs of understanding as 70 per cent of the participants interviewed stated that human activities were the main cause of climate change. The most common human contribution considered was the burning of rubbish as this was a normal practice for families in the country. It's almost like the children are encouraged to burn the rubbish at the back of their households every evening when they clean and collect rubbish. Waste management in the country definitely needs proper development as the number of waste products continued to rise as Samoa's way of life continues to be modernized. The other general causes were the cutting of trees, the use of chemical fertilizers in farming, and the increasing number of vehicles in the country as well as the rapid pace of economic development.

On a much bigger scale, 80 per cent of the participants argued that the rich powerful countries are the main causes of all these problems, as their economic development was the main contributing factor to the many environmental changes today. Their big manufacturing companies produce goods such as timber when they cut and clear down trees but never replant them. Also the amount of carbon and other hazardous gases in the atmosphere from these companies have polluted the air we breathe as well as global warming and these in turn contributed to heating temperatures that discouraged people to go outside and work the land. As Sione argued;

Even though we contribute so little to the major causes of climate change, we still need to plant more trees to provide us with a quality supply of oxygen as it's the only source of oxygen for humans to survive. The more trees we plant too means that they will be able to

absorb the high levels of carbon dioxide in the atmosphere. We have no choice but to work and adapt to the situation by doing what we can do such as the planting of trees.

Influence of Christian Beliefs:

Despite the signs of changes in the weather patterns discussed, 20 per cent of the participants believed that they shouldn't be blaming others. Because everything that happens is part of God's kingdom's plan and whatever challenges we go through, our God's blessings will never fail us as there are plenty of other food resources that we can fall onto. Samoa is a strong Christian country and it reflected how the participants shaped their understanding of the causes of climate change. Their beliefs and faith are that the problems we face today are how God is testing us to see if we are ready before the end of the world.

Most Vulnerable Group:

Everyone's a Victim

People's understanding of the impacts of climate change and their vulnerability to it definitely showcased great understanding from the participants. Clearly people were able to respond with the knowledge that everyone suffers rather than a specific group. Certain responses indicated they think everyone in Samoa will be affected rather than just a specific district or group of people. For instance, most of the participants understood how the rising temperature was responsible for the increasing number of mosquito borne diseases. The increasing heat was also a concern for farmers as their plantation crops are not growing as well as they used to as Tone discussed;

I think everyone will be affected, from families to villages and countries, youth or old people and especially the young children who are growing up in the future. It's the young ones growing up that will carry all the impacts of our actions. So therefore it's important for us

to be good role models for them. But yes everyone is affected, not just one group of people.

Small Island Countries

A number of participants argued too that the impacts of climate change will be significant not just to our country but every other small island in the Pacific. Our small and tiny islands are vulnerable as we have nothing to rely on to help us cope with the weather and climatic changes. We are not like the big powerful countries with huge landmasses and a technological economy that protects them from such harmful effects. Therefore the size and scale of the countries matters, when it comes to the intensity of the impacts. As Simi commented;

They don't feel the caring emotions and feelings like we do, because when disasters strike, it will most likely to affect only one side of the bigger countries. It's definitely not like Samoa and other small Pacific islands where one small natural disaster would have tremendous physical and emotional impacts as people share closer relations.

Participants felt that the big powerful countries don't really care about a sustainable environment as they have enough land, resources and money to fall back on after such disasters. Hence, small Pacific islands like Samoa are easily and seriously affected when disasters strike as most people live and survive by depending on these natural resources.

Youths

Interestingly, 70 per cent of the participants argued that the most affected and the most vulnerable would be the youths and the young children of today. The young children and new born babies will be affected as their health would be highly influenced by the common weather related diseases in the future. They

will be the ones growing up to face a most likely hotter and less healthy environment in which to live. As some of the participants commented;

For the time being, we are not really suffering from the changes because most of them are just warnings, but it's the future generations that would suffer the most and that is why we are being called to do something good in our families and village. It's our actions that bring the problems and the changes. It's important for everyone to understand that climate change would affect me, you, and especially the children and grandchildren if the current generations don't develop and manage our resources properly (Fatu).

From my observation growing up, when I was little I felt like I had the freedom and was 100 per cent happy but now I'm 40 years old, it's not the same any more. And as I look into the future, we might lose our safety and freedom in the next 20-30 years. I feel sorry for the future generations (Apelu).

Potential Impacts:

Shortage of Food Supply

There can be massive consequences for the villages in the future. For instance, people can be faced with malnutrition or even starvation if there are not enough crops for food supply. The growth of vegetation and farming crops will be limited as the soil may become less fertile and drier from the hot sunny temperatures and changes to rainfall patterns. Therefore people maybe struggling with finding sufficient and affordable foods as they will be forced to rely on imported manufactured goods for survival, yet, they may have lost their traditional source of subsistence income. Hence people may suffer from hunger like in other poor countries of the world as Simi shared his own personal struggle;

In my own family, vegetables and plants are not growing very well because of the sunny weather. Only a few crops are growing well like peas and cucumber but it is very difficult to keep it sustained. If our vegetables fail, we will not be able to provide the healthy vegies to feed the young children and our grandparents.

Financial Support

More significantly, there was a deeper concern and affection shown from one of the female participants towards the possible impacts of climate change on her relationship with the environment. She was able to discuss how her family members are all involved in their agricultural plantation and farming which has helped provide for their basic needs and money contributions to the village and church.

I fear that if these harmful impacts of climate change continue to affect our environment, my family will struggle as we won't have any source income to carry out our many family commitments. It will be expensive to live off foods from the store and definitely hard to rely on the limited money sent from my family in New Zealand (Lupe).

Sea Level Rise and a Structural change

In terms of sea level rise only 20 per cent of the participants understood the scientific approach that indicates global warming is causing the melting of some of the ice in the arctic which raises the level of sea water together with the heating of warm water. The argument by Campbell (2014) that these islands are the most vulnerable when exposed to sea level rise can linked to the experiences and knowledge of the participants as they believe that in the future, the level of sea water will be higher, resulting in higher waves that will cause further coastal erosion. As a result people in the coastal villages will have to build expensive sea walls which most cannot afford, or migrate and live in the interior high land areas

but that involves a significant change to the social structure and system of many families and villages. As one participant commented on her village coastal experience;

In my village, the sea waves are reaching the houses at the coastal areas and the beach has been damaged as there is no sand like before. The families are trying to build small seawall blocks to protect the coast but everything is washed away from the continuous force of the high sea level. Some families have moved to their farming areas to live but it's quite challenging as they don't have a proper water or electricity supply. They still have to report to the main centre of the village for many of the needed services (Rosa).

Health and Development Risks

The impact of climate change on people's health was discussed mainly by the young women's group. They believe that the extreme hot temperature and the long periods of heavy rainfall are contributing to the rising number of diseases affecting people's health. The Ministry of Health has recorded a rising number of mosquito borne diseases which are environmentally related such as dengue, chikungunya, zika, typhoid and diarrhoea. These viral diseases have increased the number of sick people especially the young children who are probably the most vulnerable as Sopo explained;

Two of my children had to be admitted to the hospital at the same time for chikungunya. The ward was full and packed therefore my two children had to share a bed as the hospital staff tried to accommodate the other sick babies.

These health problems may also contribute to a setback for the tourism industry. The number of tourists coming in to the country dropped significantly from the months of September to December in 2014 as tourists were warned of the risks of travelling into Samoa at the time. The consequences of events such as this can

be vital for a small country like Samoa where the tourism industry is a major source of income.

Knowledge of the Project

Positive Signs:

The project initiated by the ministry is now officially coming to an end after four years of formal operation. The goal now is for the local villages to continue the project. As reflected, 60 per cent of the youth participants knew and understood what the project was. Some of the youth's knowledge and understanding have changed and improved over the years. Some of the participants discussed how hard it was for them to accept the project from the beginning;

I grew up working the land based on my traditional experience and now after four years of the project, I tell you that I know the importance and the benefits of this project. Some brothers in the village are now interested in the project as they have observed significant improvements in my plantation. I am able to teach my children to continue the practice of watering and weeding the crops. They have learnt how to save certain plants or cut down other unnecessary plants. My children have developed the feeling of love and care for the farm by looking after them (Falelua).

The ICCRIFS project has opened up opportunities for the local farmers to vary and change their methods of farming by growing mixed crops at different locations such as around their houses. As shown in Figure 4, there are strong massive trees that when they are fully grown, are considered highly suitable for buildings and construction in Samoa. However, they are rarely found in low land areas as Muliaga explained;

Now I have planted crops and trees that I would have never allowed to grow on my backyard such as the '*poumuli*' tree. Now I am able to grow and develop a mixed variety of crops. This mixture of crops and

plants has sort of provided me with that secure source of food supply and financial assistance. This was very crucial as it provided me more options to fall on when one crop is damaged or infected with bacteria and so forth.



Figure 4: Mixed farming of *poumuli* trees and taro

The project initiated the planting of crops and trees which are now growing on lands that were unused before. The village youths have been planting trees around the water catchment areas and have helped provide a secured quality supply of water for the village. It's going very well as the youths are working together even without financial support from the ministry. Hence one of the significant contributions and successes of the project was providing that opportunity for the *tupulaga talavou* of the village to come together and share a community approach towards sustaining the project. As Samuelu explained;

Now the project is going well as the village youths now understand the benefit and significance of the project for them and their children in the future. As a result everyone in the village including *matai's*, the women's committee, church and the youths are all supporting the project. For

instance, my parents would often force me to go work at the project even when we have our own family chores. So yes, the project's advantage was that it encouraged the youths to make use of their lives rather than just being lazy.

The Reality of Most Projects:

Not surprisingly, about 40 per cent of the youth participants had no idea or knowledge about the project in their villages. The lack of understanding shown about the projects indicates that some of these youths are not taking part at all in the climate change projects by the ministry in their local community. Thirty per cent of the participants knew and have heard about the project in their villages but never took part in it as they did not understand what the project was about. I think this painted a picture for many of the climate change projects in the country as most of the youths don't understand the project. This was mainly because of the fact that only a selective representative which was often the *pulenuu* of the village, is involved during the consultation process. So when it's time to initiate and start a project, the youths are forced to work without a proper explanation of the importance of the project while the elder *matai's* tend to give orders and control activities. This was reflected when three participants from the same village argued about the project as they all had different understanding;

The plant house is up now but we are still waiting for crops and plants from the ministry hopefully soon. But the project is there, the youths cleared the land and now it's looking good (Tautua).

We are both from the same village and we already have trees and plants for the plant house under the project. I'm the one that is mostly responsible for the project and plant house (Malo).

I do not know anything about the project or even a plant house in my village. If there is one, then I'm sure it's only for the *pulenuu's* family (Viliamu).

The communication process for many of the villages seemed to be the problem as most of these participants were not aware of the project. Usually their village representative to the government was elected from a village meeting which consisted of *matai's* only. This *matai* is referred to as the *pulenuu* or the '*sui o nuu*' and is usually the first point of contact in the village when a government ministry approaches with their projects. The *pulenuu's* role is to organise and inform the village about a project requested from the ministry and therefore, the success of many projects usually falls on the *pulenuu*. However, some of the participants discussed how their *pulenuu* have failed to inform and advertise such projects to their villages;

I'm from the village of Solosolo and I have no idea of what the project is about. I wasn't involved because I was never told by the *pulenuu* (Lipine).

I don't really know the project by the ministry in my village but I am sure that I don't know where the project has gone to. Honestly don't know where the person responsible with the plant house has gone to. So we have nothing so far and the plants that were planted in the interior high lands have been eaten by grass. Right now we don't know what to do with it as I can tell you that the plants are like this high but the grass are that high (Miri).

Community Approach:

Participation Levels

Only 30 per cent of the participants actually took part in a project. This was a very low percentage considering that the project is coming to an end. A few of the participants actually understood the project well and were satisfied with the progress and changes they have experienced since it started. As the youth leader from the village of Nu'usuatia explained his role from the early days of the project;

I started working for the project from the beginning with our *pulenuu* back then. I offered my land for the plant house to be built by the ministry. I was the leader of the committee that gave guidance and set an example to the youths. We were the ones that farmed and planted the vegetable gardens as well as the planting of trees along the river side. It went well as we were able to get some money from selling the vegetables and trees. So yes the project was good for us, it informed and encouraged the youths to work the land especially when they don't have jobs (Falelua).

According to some participants, their village never really supported the project. The *matai's* and the village people were only interested in the beginning but once the ministry officially handed the project over for the village to continue, they lost interest and never helped out. Therefore, her family tried to continue the project as the plant house was based on their land as Leiloa explained;

We were able to plant trees that are now growing along the river side helping to maintain a good supply of water. The new plants and crops from the ministry have now been planted in our plantation too and by now, I can already see improvements. But for my village, the people never really gave support as they were lazy to come and weed and look after the project. They were only present in the beginning when the ministry gave out money for the people that helped clear the land but ever since then, it has just been my family. My family is doing very well as we are getting some money from selling the vegetables and we know it is not just for now but mainly the future.

Capacity Building

The success of any project depends on the support of the local communities. Their contribution and support through participation helps maintain and improve a project in order to meet its goals. But for this specific project, 70 per cent of the participants did not participate in any of the phases throughout the four years of implementation. This was very disappointing as no one was present

during the consultation in the beginning, the clearing of the land as well as the building of the nursery plant house. As a result the participants quickly blamed the *pulenuu* as the reason why they were not part of the project. As Muliufi explained;

We had different representatives at the time and plus we were never told as the *pulenuu* only brings in his own family members because they know the ministry gives out allowances after every meeting. Therefore those that attended the meetings or the even the representatives at the time never informed or shared with us what they have learnt from such workshops.

Information is considered knowledge and knowledge is considered power. So the availability of information determines the level of understanding especially for these local people. However the participants seemed to lack the basic understanding of the project and I think it reflected on the very low number of youths that were involved. Some of the participants did not understand the importance or even the ownership process of the project as Miriama explained;

The project in my village was mainly controlled by the family that owned the land where the plant house was built. It benefitted that family only and even now they are selling the plants to us but we don't want to pay as I believe the plant house was for the village. So I am confused about what exactly was the point of the project in the beginning, whether it was for the family only or for the village as a whole.

Project a Success or Not:

Positive Signs

The project has shown big improvement and success particularly for two of the villages. As shown in Figure 5, the people have continued the nursery of seeds to distribute amongst the village community to plant. People have continued to observe the good growth of vegetables in the farms, as well as plants and trees

along the river side. It has provided a healthier environment which has also helped with the beautification of the villages for tourists to enjoy. It has also provided a consistent source of income for the families in the village from the local tourist development sites. More importantly, it has provided a sense of caring and responsibility for the *tupulaga talavou* of the village to work together in fighting against the impacts of climate change. As some participants explained;

I am happy now that I know I have played a part in helping to secure a better environment for the future generations of my village to enjoy (Siaosi).

The project is based up at the school next to the kindergarten pre-school. It was very successful and beneficial as it provided fruits and vegetables such as pawpaw and cucumber, cabbage and tomatoes for cooking (Leilani).



Figure 5: Nursery plant house

Overall 30 per cent of the participants rated the project as average. Certainly most of the local people struggled to continue the project by themselves when the ministry handed it over. The local people that continued the project had difficulties as most of the village people were not supporting them. Traditionally people are reluctant to adopt new changes or ideas and as reflected in this project, people didn't really show interest and support towards the project as Lotu discussed;

It was very hard to convince people about the significance of the project to the village. They never really supported us as they don't respect us. Therefore, the ministry should have visited more to follow up on the standard of the project. You guys are respected by the local people as they know you are government officials that are equipped with proper studies and research to help the local communities. Because I tell you what, these local people are very lazy and are only willing to work if you show them money.

More effort should have been put into workshops and seminars in the villages about where and how they can move forward. A good example of a strong campaign was in relation to HIV Aids when the Ministry of Health emphasized it as a matter of life and death. Although climate change is yet to be a matter of death, I think it is crucial to treat it with the same concern if people really do care about their environment. Hence the project was on average of little importance to many people, as it was just part of the system process but wasn't consistent. As Pepe stated;

Because right now we hardly meet up with the ministry and by the time we meet some of the people have already given up on the project.

The Unsustainable Reality

The site visits to the project areas the day after the focus groups as shown in Figure 6, painted a clear picture of how unsustainable and unsuccessful the project was for many of the local villages.



Figure 6: Poor signs of weeds eating up the crops

This reflected why 50 per cent of the participants considered the project to have failed. To think that the project had a four year operation timeframe, it should have been matured and rewarded by now to help local people become resilient towards the continuing impacts of climate change. The poor results of the observation at the project sites can be linked to the discussion by Vavao;

For my village it was good from the beginning, but it quickly went into a waste as soon as the ministry left it to our village *pulenuu*. The locals lost interest in the project especially when no one in the village led and took the initiative to continue the project. The discouraging

signs of the extreme sunny long periods didn't help the laziness of the local people. As I tell you, these people would only work for something that will benefit them directly rather than the long term rewards. Also people are more individualistic as they don't want to waste their time working when other people in the village are not.

Five villages reported that their project had failed since there were disputes over the plant nursery house between the family that owned the land and some village *matai's*. There have been a lot of tensions and conflicts over the ownership and control of the plant houses. These internal issues have influenced the way in which the projects have been poorly developed as Mika explained;

I think the family has done a great job continuing the plant house for the project. But the problem now was that the *pulenuu* and other village *matai's* are forcing their way back into the project when they haven't been around to help the family. So there have been arguments between them and now the village have stepped in with the authority to allow the *pulenuu* to take charge again of the project. Now the original family have withdrawn themselves from the project by requesting to shift the plant house to the *pulenuu's* place away from their land. So yes it's a major setback for the project itself.

Perception Towards the Environment:

Change Maybe

The workshops and the seminars proved beneficial for some of the participants. The regular visits by the ministry in the beginning of the project also provided a good platform of information and ideas that have helped the local youths in their farms. As some of the participants explained;

Good and big change for me now, now I am able to distinguish rubbish and plants that are useful for others. I have learnt the importance of understanding the different soils generated from the

useful compositing of rubbish to help produce a fertile soil. And I feel the need to care for the trees as I am able to understand and learn this through the project together with my experience as a farmer (Mareko).

I am someone that has attended a lot of seminars and workshops like this specifically on climate change. I have learnt the importance of proper waste management such as sorting and allocating it properly for the rubbish trucks to collect (Hugo).

Some small changes for me as I have been able to clean and classify my pieces of land into special units for farming a mixed number of crops. My mixed crops farming have helped provide a sustainable supply of food especially during the different seasons (Loleni).

For some the improvements observed in the project have played a significant part in changing the way they look at their environment now. They have learnt to be more considerate of others especially at public and shared places. As Kamal explained;

We can't let your actions harm or disappoint other people around you. You have to be mindful of the safety and well-being of others that share the same environment as you. Because it's true that, what you do in public places reflects how and where you came from.

Planning versus Reality

It was disappointing to find out that about 50 per cent of the participants considered the project unsuccessful as it didn't really change how they looked at the environment. These people believed that the project didn't really have much impact as their understanding and care for the environment was limited to their own properties. This was because people are willing only to protect the places they have ownership of, so a public shared place wouldn't hold much value for them as Vili discussed;

There is not much change within my family and village. People are used to looking after their own surroundings but are often stubborn and ignorant when throwing rubbish around public places. The different values of public and private places is influenced by the lack of understanding as we don't share knowledge with others. For example, we encourage our children to burn the rubbish every day rather than being responsible for allocating them to proper waste management.

Of all the women participants, 80 per cent commented that the project did not have much influence on them. This was mainly because women in the Samoan communities are responsible for many important roles such as looking after the health and welfare of their members. Therefore the conditions of the project such as planting and farming weren't something new for them as Luisa discussed;

There was not much change after the project, because for us women it's been our responsibility and duty to look after the family. We are encouraged and supervised by our women's committee to grow gardens and vegetables for consumption. Just as the Bible says, we have to pray but also work in order to get the rewards of what we want. However there has been slow progress recently due to the recent sunny dry weather.

A Similar Approach

The concerns of the local people can be crucial to determine the success or failure of any project development. The project according to its mid-review report by the ministry showed that there was a 90 per cent successful contribution from the youths. However in contrast, 70 per cent of the youth participants that were involved in this research did not participate at all throughout the four years of the project. But for the 30 per cent that took part in the project, they defined the ICCRIFS project as different and beneficial for the young people as Silipa discussed;

The main difference of this project compared to previous projects was that now the youths had a say. Before we usually sit around and follow what our elders say. We usually don't agree with what they say but we can't say anything back, but this project has provided a pathway for us youths to talk and speak out. As for my village, it was much easier and beneficial for the youths to lead and carry out the project under the authority of our *matai's*.

There have been several projects that have been carried out in most of the local villages. Others have been successful and well supported compared to this project. Such projects include the national Health program that comes out almost every two months for awareness on sexually transmitted diseases and HIV Aids. These programs are very strong and powerful as they have made people realise the consequences of unprotected sex. So the people were able to get the message loud and clear and were able to quickly adapt to these new health changes.

Other villages had other agricultural projects developed by the Agriculture department. The village of Fusi had their own agricultural project and this was a successful project as the *palagi* (pakeha) man that initiated the project was living and staying within the village. As Ioane explained;

We worked together every day with the *palagi*. He lived with us and experienced the real village life and I think that was the difference compared to this project as the ministry hardly visited. He led from the front in all aspects of the project which motivated us to help out.

Response to Climate Change

A Youthful Approach:

The structural composition of a Samoan village consists of *matai's*, women, untitled men, young women and children. The inter-relations of these different groups can determine the outcome of a project. In order for these groups to function successfully together, the communication process must be efficient for

everyone to understand. Unfortunately I have observed that this has been a setback for most of the village projects. As Crystal discussed;

The selection process of our *pulenuu* is through a village chiefs meeting. Sometimes the chosen *pulenuu* is related to the main chief's family or even someone without the proper characteristics of leading the village into developments. More importantly, our representatives to the ministry tend to fail in reporting back to the village on the issues discussed.

Hence the selection of each village representative is crucial as he or she would be the one to lead and act as a role model to communicate the needs of the other groups in to the chiefs meetings. It is from there that proper regulations are enforced and therefore everyone in the village will have to abide by working together to sustain and manage the environment.

One of the easiest ways to improve the communication process through the *pulenuu* and the local village people would be through cell phones as the ministry can easily inform people. The use of cell phones can be much cheaper, easier and faster to communicate between the ministry and the local villages so that way the *pulenuu* can be supervised too as Line discussed;

That way we can also report to the ministry if the *pulenuu* is not performing its role of walking around to monitor the project rather than just sitting there. This can be easier for us too when we want to ask questions or express our concerns rather than going through the chiefly system as it can be a long process.

In the Samoan family, it is the women that are responsible for many of the services provided which include cooking, cleaning, ironing, health and welfare of each family. For the village and church groups, the women are also seen as the main drivers behind the many activities and developments as they are very

active and well organized. So in relation to the environment and the fight against climate change, women can also be seen as strong ambassadors to the local communities as Leilani discussed;

Us women can also lead these climate change projects, as much of the work in the family households, village and church is done by our women's committee. I think we can do a much better job if we were given the opportunity to lead, informed and educated through seminars and workshops by the ministry.

Seminars and workshops in the village can also provide an opportunity for the *tupulaga talavou* to engage in these climate change projects and hopefully use that knowledge in their normal everyday lifestyle. However the problem with the village consultation workshops is that the *tupulaga talavou* tend to shy away especially when the *matai's* are present. Their ideas and questions are most likely to be controlled by the presence of these *matai's* as they are the ones that usually do the talking. Even when the ministry directly invites the *tupulaga talavou* only to such village workshops, the *pulenuu* and some village *matai's* will force their attendance. This problem was noticed on the day of the focus groups as Nina discussed;

The ministry should visit more often like monthly and do seminars in the local villages. That way you ask a question and the youths will answer directly on what they think and want. It's good to have seminars in the villages but it can also depend on how good the villages are. Because some won't even have a good turn out as some are very quiet and are not active in the local village.

Who's Responsible?

Youths Call

Eighty per cent of the participants argued that the *tupulaga talavou* should be at the forefront of the climate change projects within the local villages. The local

systems within the village need to give an opportunity for the *tupulaga talavou* to take the lead as they are often referred to as the '*Malosi o le Nu'u*' which is translated into English as the strength of the village. This is because the *tupulaga talavou* are considered as active and energetic which can be used for the development of the village since the elders won't have the capacity to work the land. As Perise discussed;

I personally think that the main people should be the youths as normally the *pulenuu* just sits there after workshops and normally informs his son and family only. But if we bring the youths in to it, every family have their own youth members that are active and if we educate them, they can work as role models for the environment.

However it seems very difficult to challenge let alone change the traditional *fa'amatai* or chiefs system in the villages. It is a must for the young people to listen and obey once the elders speak. Hence there is a bigger problem that these *tupulaga talavou* experience in trying to voice their opinions. So it can be difficult for the Samoan youths to share their knowledge and understanding from these workshops back to their villages. As Maila explained;

If there comes a time that we will approach the chiefs and the elders in the village, we will be labelled as a disrespectful generation and for us it's something that we can't risk fighting against.

Therefore it's very important to have a system that will open up opportunities to every group in the village to voice their concerns. There is a need for an opportunity for the youth to take part and lead a project and to encourage the young people to work together by supporting each other and hopefully build a closer sense of unity to make use of their lives as most are unemployed. As Fano, a member of the ministry, commented;

Since the formulation of the project, the most successful village would properly be Nu'usuatia because the main person that has led was the main leader of the church youth and the untitled men's group. He has

been able to attract other youth members to join through the evidence of his hard work and commitment.

Traditional System

Ten per cent of the participants had their trust and support for the *pulenuu* to lead and control the climate projects in their villages. The *pulenuu* to them is someone that is respected within the village and is responsible for the connection between the government and village. They are the representatives to workshops as they have the authority to call for village meetings to address certain issues. As Lome explained;

I think it should be the leaders of the village to lead the projects, as if I was to go back into the village with a project like this, I will get hammered from the old people and no one will listen to me. Every village has their own *pulenuu* who should be representing the village youths too.

The last ten per cent of the participants believed that the environment and the effects of climate change were everyone's responsibility as they will affect each and every one of them rather than a specific group of people. As Sila discussed;

I think it should be me, you and every other individual as it takes a combined effort for us to save the environment from the harmful impacts of climate change. So we shouldn't be pointing fingers to the *pulenuu* or the ministry but to ourselves who are not playing our role as good environmental citizens.

The ministry should also be a strong force behind their climate change projects. After hearing from the participants, it painted a clear picture that the ministry did not play a motivational and a continuing contribution to the sustainable development of the project within the villages. The inconsistency of their visits to the project sites reflected signs of failure for the project during my visit. Most of the plant houses have been inactive as the weeds are eating up most of the

grounds and it doesn't look like they have the potential to continue especially as the project is officially coming to an end soon.

Information Sources Available

Television and radio were the most common sources of communication that provided the information on climate change to 70 per cent of the participants.

Twenty per cent noted the seminars and workshops by the ministry as the main source of information received on climate change. These workshops were effective as they provided that face to face consultation which presented new ideas and images that caught the local's attention instantly. As Uele explained;

The video and the presentation from the researcher today was mind-blowing for me. The serious impacts of climate change which can possibly affect our country were surprisingly scary. It's good too that we can ask questions directly to the ministry when we have issues that need to be discussed.

Cell phones and the internet can also be crucial factors in learning about climate change as most of the youths today are equipped with phones that have internet connections. The youths can use their cell phones as ways to communicate and share their concerns regarding the environment. The internet is the quickest way to inform people when there are disaster warnings as Filipo explained the process in his village;

Our village has bells to ring and traditional horns to blow as soon as the *pulenuu* or the church ministers have been informed by the main disaster management office to sound the warnings of a disaster. People are now used to this system as they just leave everything behind when they hear any of the warning sounds.

Interestingly, only two of the participants referred to their educational backgrounds as a source of learning about climate change. However, when they were asked to elaborate on what they've learnt, it quickly became clear that

what they've learnt in school 10 or 15 years ago has been forgotten. This shows how a theoretical approach to the learning and understanding of climate change for these village people can be inappropriate, as they are more related and connected preferably to the realistic signs of change experienced in their lives as farmers.

Strategies:

Taking Smaller Steps

For any development project to be successful, it first has to start by taking small steps. It is important that the local people understood and are aware of the significance of the climate change projects to their villages. Taking these small steps can begin with the individual by looking after his or her own environment. An example of these small steps can include a reduction in the use of plastic bags, the burning of rubbish and hopefully setting a good example for the people around you to follow. Ideally it has start from within the family before it can spread on to the village scale. As Ioane discussed;

I have to be the example for other people to witness. Everything has to start here as Jesus said '*ia o atu outou e fai ma soo I nuu uma*' (Go ye therefore and make disciples of all nations). Most significant is to start at yourself, if you don't start then people will never notice. Just like Jesus himself, he was heavily criticized and that's the same with us, if it wasn't for the proof and evidence that other people saw and observed.

Village Meetings

Every blessing is from up above as the Samoan saying goes, '*O mauga e afua mai ai manuia*'. This can be translated into, the blessings of a village comes from the top of the mountains which refers to the leaders of the village. It is the leader's guidance and vision that can determine the successful future of a village community. The leaders in a Samoan village consist of a group of *matai*'s and elders as well as the church ministers. These leaders often have monthly or

weekly meetings to discuss issues that need to be addressed for the betterment of the village. It's at these meetings where they can create norms and curfews for the development of a climate change project. The guidelines they come up with are usually respected and abided by people to follow in order for the project to be sustainable. An example of such rules can be the planting of 100 trees for each family within a month and a special committee will be supervising it through their monthly visits. Sometimes they even set up committees to check and monitor the cleanliness of each household and impose fines or penalties if they are not up to healthy standards.

More importantly, they can also create curfews to control the managing of rubbish and waste in the villages. As noted within many families, people are so used to the burning of rubbish which can include hazardous waste that can be damaging for the environment. Even despite the provision of the rubbish truck service by the government, people in the villages have gotten so used to their common ways of burning rubbish.

Chapter Five: Conclusion

The main focus of this research was to examine if the *tupulaga talavou* of Samoa are involved in the climate change projects in their villages. Three key questions were developed to examine the existing knowledge of these participants about what climate change meant to them, their knowledge of the ICCRIFS project developed in their village and whether they were involved or were willing to become involved. In addition, questions were designed to investigate how their knowledge was constructed as well as to identify the factors that hinder their participation levels. From these findings, a conclusion and recommendation was developed to address the low level of youth's understanding and participation through the cultural political system of communication that impacts on the sustainability of the ICCRIFS project in the local villages.

Traditional Knowledge

The existing knowledge of the participants from the selected villages of the ICCRIFS project reveals that their understanding of climate change was primarily based on the traditional knowledge of changes in the weather patterns or '*suiga o le tau*' in the Samoan language. The lack of understanding of the scientific discussions on the causes and effects of climate change was evident amongst the village youth participants. For instance, some participants thought that the 2009 tsunami that affected the country was one of the many impacts of climate change. In addition, there was a common belief amongst some of the participants that the environmental and weather changes being experienced today are just a test of our faith in God and it's up to him as to what will happen, so therefore we have no control over it. This indicates that the social setting and background of the participants influenced their ability to understand what climate change is, as well as their belief in their capacity to cope with the impacts of climate change. In addition it can also be a result of the poor awareness programmes conducted by the ministry and the government in relation to the public and rural communities. On the other hand, the participants in the semi-

structured interviews were mainly MNRE and ICCRIFS staff who obviously had up to date knowledge from their educational background, and their jobs, that allowed them to learn more about the scientific aspects of climate change. There is a gap between the scientific discourses of climate change such as those employed by government agencies and policy makers and the local knowledge that is also an important component of the social and human dimensions of climate change. Therefore it is important to identify and understand the existing local knowledge of the youth participants as it gives a clear indication of where they are positioned in the context of the climate change projects in the villages.

Cultural Impact

The findings in this research reveal that the *tupulaga talavou* of Samoa are clearly not taking part in the climate change projects. Their participation level is very limited as they are often hindered by the presence of the village *matai*. In Samoa, the culture represents identity and heritage of the Samoan people (Tofaeono, 2000). It refers to their traditional way of life and how people socialise and live their everyday lifestyle based on values, customs and norms (Sauni et al, 2002). Given the social structure and setting of a Samoan village, the *matai's* or the chiefs are the most respected and honoured, and their main responsibility is to lead and make decisions for the safety and development of their own families and village. This automatically influenced the capability of the *tupulaga talavou* in the ICCRIFS site villages to voice their concerns or even take part in the project. Even if they are encouraged to speak, I personally feel from experience the struggle and fear of choosing words wisely before you can speak in the presence of the *matai*. Hence the Samoan cultural structure was one vital factor that contributed to the low level of youth participation, as 80 per cent of the youth participants commented that they should be given an opportunity to lead and monitor these climate change projects in their local villages.

Sustaining Participation

Sustainability is an issue on all levels. Even though Samoa has been able to obtain much donor financing compared to the size of the country and the low population, it doesn't mean that this will last forever. The noticeable cultural system of communication is the main problem for this climate change project. This process has been the formal way the ministry have approached the local villages through their representatives or the *pulenuu*. The *pulenuu* were highly criticized by the youth participants as they believe they had not been doing their jobs in a rightful manner. They have failed to lead as an example for the *tupulaga talavou* to follow with the development and the continuation of the projects. They failed to inform the *tupulaga talavou* of the local villages about the various awareness programs from the ministry as they usually kept it close to themselves and their relatives, especially when there were allowances involved. All these signs are unattractive to the *tupulaga talavou*, as reflected in the lack of support and interest from the local young people to develop and manage such projects. On the other hand, the MNRE and the ICCRIFS project staff were held responsible by some participants as weak, as they are hardly around to follow up the project's progress. This is particularly important as the locals failed to see and observe an influential leader or the *pulenuu* to lead the project from the front. These local people are very hard to persuade and hence a daily, weekly or even a monthly visit would have helped supervise and motivate them to work hard for the project. As one participant commented;

The problem is that we only see the ministry in about six months and the *pulenuu* is hardly around. It could have been sustainable and successful if there were regular visits where the locals could have reported the *pulenuu's* poor performance which would have made changes to the development (Ke'o).

Recommendations

Awareness and Education:

Public awareness through educational programs is a key way to empower the people at the community level with the necessary knowledge of climate change. This research highlights the lack of appropriate knowledge among the youth participants on the causes and the impacts of climate change. A sufficient amount of knowledge should be encouraged at all levels from primary school level to the village and community level. The adaptive capacity of the people in the community can be successfully improved if they are equipped with the appropriate basic scientific knowledge on climate change.

Local Knowledge:

The feedback from the community members should be at the forefront of any climate change project as I believe if the locals are satisfied, they will do anything to support the project. The development of national policies should integrate the existing social and cultural knowledge of the local people together with the scientific knowledge. The needs of the local people and what they prioritize is something worth considering as pathways to improving the climate change projects in the villages. The consultation phase of the ICCRIFS or any climate change projects should at least be centred on what the villages consider significant to them, or something they need for their own development. This is significant in determining the possible outcome as this research highlighted the importance of existing local knowledge of the community members as they did not seem to fully support the project. Therefore, local feedback as highlighted in this research, can be a possible coping mechanism to address and improve the fight against the impacts of climate change in Samoa.

Youth:

Youth comprise nearly 60 per cent of the total Samoan population (Samoa Bureau of Statistics, 2011). Consequently, educating the *tupulaga talavou* towards a sustainable environment is an essential step that can reinforce our

drive towards a sustainable future. This is crucial as they have the potential to be involved in major decision making processes as well as the implementation of future climate change projects. This is important as it is much easier to influence the attitude and behaviour of the *tupulaga talavou* in their childhood years, than it is to change behaviour later on in life when that behaviour has become a habit. Hence there is a significant opportunity for the young people to build on and continue the fight against climate change given the abundant days of their lives ahead. For example, *tupulaga talavou* of the country can compete in a competition similar to the Samoa National Youth Council award on the youth of the year but focusing on creativity and a sustainable approach towards the adaptations to climate change. In addition, the *tupulaga talavou* are often regarded in the Samoan culture as, '*o tupulaga talavou, o manuia ia o aiga, nu'u, ekalesia ma le atunuu I aso oi luma*' which simply means that the youth and children are blessings for the families, villages, churches and the country in the future.

Sustainability:

The important work carried out by the MNRE and the ICCRIFS project staff should be followed up through a permanent institutional structure with programmes led by permanent staff members from the villages. Improved sustainability at a local level would promote competition for funding between the local villages instead of sampling relatively small project sites and try to convince the population there to participate. Sustainability has also to do with organization of local stakeholder participation. It is very important that the projects work through the established *matai* village structure, including the chiefs, women groups and youth groups, instead of trying to set up something new. There is a good potential for using these groups even more for all kinds of local project activities, especially for training and capacity building. However, it is essential that the ministry can supervise and monitor the inter-relations of the groups involved in the projects as sometimes some groups can be marginalised. Furthermore gender mainstreaming is also an important issue as positive signs of good relations with

MWCSD, and the well organised women committees in the villages continues to improve.

Communication System:

While communication is arguably one of the most important aspects of any project or programme, it is crucial that it be undertaken in an effective manner, and work within an allocated budget, schedule and organisational resource allocations. Producing communication tools is one challenge, the second and perhaps biggest challenge is ensuring that the messages are understood and taken up by the community, especially those dependent on the project outcomes.

Suggestions for Further Research:

I would recommend further research on Samoa's youth awareness, and participation levels on climate change. It is essential to carry out effective research specifically based on the cultural, social and human dimensional aspects of climate change of the local communities, which can assist with the adaptation measures in place, and identify where they can be improved. It is also reasonable to carry out a full review for the management of funding that is received from overseas funding agencies, and how this money is being effectively and sustainably used among the MNRE climate change projects. Another research project should be conducted to evaluate and monitor the traditional system of selection of the *pulenuu* as a suitable candidate that can lead and be a good role model for the *tupulaga talavou* and community, as most certainly the communication process is an important component that can determine the success or failure of a project. Overall, such research would reflect ideas on how local knowledge can be integrated with scientific knowledge for a better understanding of and approach to, climate change in Samoa.

To conclude, although this research was focused on the ICCRIFS project sites alone, I think it is fair to say that this can be a good reflection of the youth's low

level of understanding and participation in relation to climate change and the projects carried out by the ministry in the country. The issues raised in this research included the chiefly or cultural barrier for the *tupulaga talavou* to be involved, the poor communication system between the ministry, *pulenuu* and the village people and most importantly the poor attitude among youth as there were no signs of encouragement or improvement. With the anticipation of the continuing effects of climate change effects in the future, it is critical that the *tupulaga talavou* of Samoa are equipped with the efficient capacity to cope and reduce these impacts when the time comes as some well-known leaders have stated;

We hold the future in our hands, together, we must ensure that our grandchildren will not have to ask why we failed to do the right thing, and let them suffer the consequences (UN Secretary-General Ban, Ki-Moon, 2007).

Sometimes it falls upon a generation to be great. You can be the great generation. Let your greatness blossom (Nelson Mandela, 2005).

Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek (Barack Obama, 2008).

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Appendices

Appendix One



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Geography Programme
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Information Sheet (Focus Group):

The research

Thank you for taking time to consider this research. I am a geography graduate student at the University of Waikato. As part of my Master's thesis program, I am doing research on youth and climate change in Samoa. My overall aim is to learn and understand if the youth of Samoa are participating and taking part during consultation and the development of the climate change projects. By doing this research, I am interested in looking at the discourses that influence/ hinder the participation of the youth in the decision making processes towards climate change.

Your involvement

I would like to invite you to participate in a focus group. I would like to audio-record all of the discussion so that I can capture all the information provided during the focus group.

For this research I hope to conduct 4 focus groups of 5 participants per focus group. Each focus group will take approximately 60mins to 90mins. Focus groups are informal discussions where you will be able to share and learn knowledge with other participants.

What are your rights?

Participants' rights – As a participant of this research you have the right to:

- Decline to participate,
- Refuse to answer any particular question,
- Withdraw from the research up to four weeks after participation,
- Request that any of your material be excluded from the research,
- Ask any questions about the research at any time during your participation,
- As you do not have the option to decline being audio recorded during the focus group, you may withdraw if you object to this.

Confidentiality

I will ensure to the best of my ability that all discussions and transcripts will be kept confidential. Any information stored on a computer will be accessible only by password that will be changed regularly. Only I will have access to the transcripts and electronic information. Participants in the focus groups will be asked to respect other participants by keeping all information shared confidential within the focus group. Pseudonyms will be used if you wish to protect your identity. However, I cannot guarantee your anonymity.

The findings

The results of this project will be used as part of my master's thesis. Four copies of my thesis will be produced; three hardcopies and one accessible online. It is possible that I may present my finding in a conference and in academic journals.

This research project has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences of the University of Waikato. Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email fass-ethics@waikato.ac.nz postal address, Faculty of Arts and Social Sciences, Te Kura Kete Aronui, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240. If you would like to participate please contact me.

What next?

If you would like to take part in this research, I will contact you to organise a suitable time to meet. If you have any questions about the research, please feel free to contact me.

Pati Orana Senara (Researcher)

Email: pos1@students.waikato.ac.nz

[REDACTED]

[REDACTED]

John Campbell (Supervisor)

Email: jrc@waikato.ac.nz

[REDACTED]

Appendix Two



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Geography Programme
School of Social Sciences
Faculty of Arts & Social Sciences
Te Kura Kete Aronui
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

Research Consent Form (Focus Groups):

I have read and I understand the Information Sheet and am willing to take part in the research project Youth and Climate Change in Samoa. I have read the information sheet and understand that:

- I can refuse to answer any question and can withdraw from the research up to 4 weeks after the focus group.
- All information will remain confidential. Focus group members are requested to keep information shared during the meeting private.
- I have the right to remain anonymous and protected by a pseudonym unless I state otherwise.
- All information collected will remain secure and safe in a password protected computer in a private office.
- Information will be used for a Master's thesis and academic purposes only.

I understand the focus group is being audio recorded

YES/NO

(please circle)

I am happy to participate

YES/NO

(If No, then you must withdraw from the focus group now)

(please circle)

I wish to have a pseudonym

YES/NO

(please circle)

I (your name)_____ agree to participate in this research and acknowledge receipt of a copy of this consent form and the research project information sheet.

Participant's name:

Date:

Signature:

Researcher's name:

Date:

Signature:

Pati Orana Senara (Researcher)

John Campbell (Supervisor)

Email: pos1@students.waikato.ac.nz

Email: jrc@waikato.ac.nz

Appendix Three



Geography Programme
School of Social Sciences
Faculty of Arts & Social Sciences
Te Kura Kete Aronui
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

Information Sheet (Semi-Structured Interviews):

The research

Thank you for taking time to consider this research. I am a geography graduate student at the University of Waikato. As part of my Master's thesis program, I am doing research on youth and climate change in Samoa. My overall aim is to learn and understand if the youth of Samoa are participating and taking part during consultation and the development of the climate change projects. By doing this research, I am interested in looking at the discourses that influence/ hinder the participation of the youth in the decision making processes towards climate change.

Your involvement

I would like to invite you to participate in a semi-structured interview. I would like to audio-record all discussions so that I can capture all the information provided during the focus group.

For this research, the semi-structured interviews will be approximately 30mins to 60mins depending on the participant's available time. This will include informal questions with key stakeholders from the ministries that are involved with climate change projects.

What are your rights?

Participants' rights – As a participant in this research you have the right to:

- Decline to participate,
- Refuse to answer any particular question,
- Withdraw from the research up to four weeks after participation,
- Request that any of your material be excluded from the research,
- Decline to be audio recorded,
- Ask any questions about the research at any time during your participation.

Confidentiality

I will ensure to the best of my ability that all discussions and transcripts will remain confidential. Any information stored on a computer will be accessible only by password that will be changed regularly. Only I will have access to the transcripts and electronic information. I will do my best to ensure your anonymity however, it is possible that you can be identifiable by the answers you provide.

The findings

The results of this project will be used as part of my master's thesis. Four copies of my thesis will be produced; three hardcopies and one accessible online. It is possible that I may present my findings in a conference and in academic journals.

This research project has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences of the University of Waikato. Any questions about the ethical conduct of this research may be sent to

the Secretary of the Committee, email fass-ethics@waikato.ac.nz postal address, Faculty of Arts and Social Sciences, Te Kura Kete Aronui, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240. If you would like to participate please contact me.

What next?

If you would like to take part in this research, I will contact you to organise a suitable time to meet. If you have any questions about the research, please feel free to contact me.

Pati Orana Senara (Researcher)

Email: pos1@students.waikato.ac.nz

[REDACTED]

[REDACTED]

John Campbell (Supervisor)

Email: jrc@waikato.ac.nz

[REDACTED]

Appendix Four



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Geography Programme
School of Social Sciences
Faculty of Arts & Social Sciences
Te Kura Kete Aronui
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

Research Consent Form (Semi-Structured Interviews):

I have read and I understand the Information Sheet and am willing to take part in the research project 'Youth and Climate Change in Samoa'. I have read the information sheet and understand that:

- I can refuse to answer any question, terminate the interview and can withdraw from the research up to 4 weeks after the interview.
- All information will remain confidential.
- I have the right to remain anonymous and protected by a pseudonym unless I state otherwise.
- All information collected will remain secure and safe in a password protected computer in a private office.
- Information will be used for a Master's thesis and academic purposes only.

I consent to our conversation being audio recorded

YES/NO

(please circle)

I (your name)_____ agree to participate in this research and acknowledge receipt of a copy of this consent form and the research project information sheet.

Participant's name:

Date:

Signature:

Researcher's name:

Date:

Signature:

Pati Orana Senara(Researcher)

John Campbell(Supervisor)

Email: pos1@students.waikato.ac.nz

Email: jrc@waikato.ac.nz

Appendix Five



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Focus Group_(Schedule Questions):

1. What is your understanding of climate change? (Prompt: global warming, sea level rise, tropical cyclones, drought, rising temperatures)
2. Who do you think will most likely to be affected the most by the impacts of climate change? (Prompt: country, youths, gender, villages)
 - a. Why?
3. How do you think climate change will affect your village?
4. What do you know about this climate change project in the village?
5. What role did you play in this climate change project?
 - a. What did it involve?
 - b. If not, was there anything that might have prevented you from participating?
6. How do you rate the success of this project?
 - a. Successful ☐
 - b. Average ☐
 - c. Unsuccessful ☐
7. Have you observed any changes/ improvements since this project was established? (Prompt: family, village, youths, income, environment)

- a. Example
8. Has the project changed the way you think/ act towards the environment?
- a. If yes, in what ways?
 - b. If no, why not?
9. Was there a major difference of this climate change project compared to previous environmental projects carried out in your village before?
(Prompt: What have you learnt or found interesting? Freedom to speak?)
10. In what ways do you think the youth can contribute to improve this climate change project in your village?
11. Who do you think should take the responsibility in saving the environment? (Prompt: Government, Chiefs, Women, Youth, Church, Teachers)
- i. Why?
12. What information is available about climate change that you know about?
(Prompt: education, radio/ TV, newspaper, social media, friends, Government, church. Is Climate change a priority/ important issue in village chiefly system or it's only when the Ministry approaches?)
13. What can you as a young individual do to help address the issue of climate change in your village? (Prompt: Lessons learnt from projects)

Appendix Six



Geography Programme
School of Social Sciences
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Te Kura Kete Aronui
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

Semi- Structured Interview (Schedule Questions):

Name:

Position:

Organization:

1. Do you think the youth of Samoa are doing enough to address the impacts of Climate Change in the communities?
 - a. Yes/ No
 - b. Why?
2. Do you think the Ministry is doing enough to educate and equip the youths of Samoa to fight against Climate Change?

- a. Yes/ No
 - b. Please explain.

- 3. Why and how is this project different from other Climate Change projects carried out by the Ministry?

- 4. Do you think that a youths approach on Climate Change can lead to a sustainable future for Samoa?
 - a. Yes. No
 - b. Please explain.